

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DEPUY SYNTHES PRODUCTS, INC.,
Petitioner,

v.

MEDIDEA, L.L.C.,
Patent Owner.

Case IPR2018-00315
Patent 6,558,426 B1

Before FRANCES L. IPPOLITO, MICHAEL L. WOODS, and
RICHARD H. MARSCHALL, *Administrative Patent Judges*.

WOODS, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

DePuy Synthes Products, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 9 and 10 of U.S. Patent No. 6,558,426 B1 (“the ’426 patent”). Pet. 1. We issued a Decision to Institute an *inter partes* review of these claims. Paper 8, 2.

After institution of trial, MedIdea, L.L.C. (“Patent Owner”) filed a Patent Owner Response (Paper 14, “PO Resp.”), to which Petitioner replied (Paper 22, “Pet. Reply”). Patent Owner also filed a Sur-Reply to the Petitioner’s Reply. Paper 26, “PO Sur-Reply.”

Oral argument was conducted on March 7, 2019, and the transcript of the hearing has been entered as Paper 34.

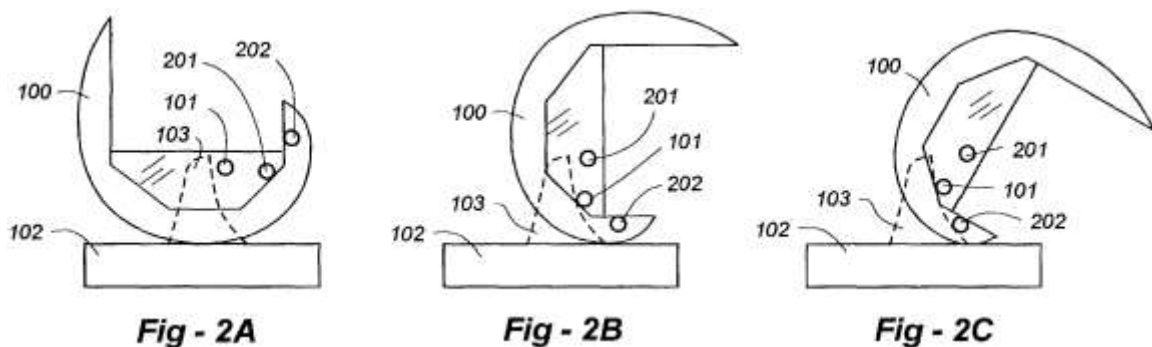
We have jurisdiction under 35 U.S.C. § 318(a). After considering the evidence and arguments of both parties, and for the reasons set forth below, we determine that Petitioner has not met its burden of showing, by a preponderance of the evidence, that either claim 9 or 10 of the ’426 patent is unpatentable.

A. *Related Proceedings*

The parties represent that *MedIdea, L.L.C. v. DePuy Orthopaedics, Inc., et al.*, Civil Action No. 1:17-cv-11172 (D. Mass.) (“Related District Court Proceeding” or “District Court Proceeding”) is a related matter. Pet. 35; Paper 4, 1.

B. The '426 patent (Ex. 1001)

The '426 patent is entitled “MULTIPLE-CAM, POSTERIOR-STABILIZED KNEE PROSTHESIS” and describes a “distal femoral prosthesis having multiple distinct cams *contacting a post on its posterior surface* to a [sic] provide more normal range of motion for cruciate substituting knee replacement.” Ex. 1001, [54], 2:15–18 (emphasis added). During prosecution of the '426 patent, the applicant elected the species of Figures 2A–2C and 4 and stated that “at all times one of the [cam] members cooperates with the posterior aspect of the tibial post through a range of motion from extension to flexion.” Ex. 1002, 56. We reproduce copies of Figures 2A–2C, below:



According to the '426 patent, Figures 2A–2C illustrate a preferred embodiment of the invention in *extension*, *90° flexion*, and *120° flexion*, respectively. Ex. 1001, 3:6–11. In particular, these figures illustrate cams 101, 201, and 202 engaging tibial post 103 from 0° flexion/extension (Fig. 2A), through 90° flexion (Fig. 2B), and through 120° flexion (Fig. 2C). *See id.* at 3:28–46; *see also id.* at 2:4–5 (identifying 102 as a tibial insert with post 103 (in relation to its discussion of Figure 1A)).

C. Illustrative Claims

Claims 9 and 10 are the challenged claims and are reproduced below, with emphasis added to a disputed limitation discussed in this Decision:

9. A distal femoral knee-replacement component configured for use with a tibial component having a bearing surface and superior tibial post with a posterior aspect, the distal femoral component comprising:

a body having a pair of medial and lateral condylar protrusions and an intercondylar region therebetween dimensioned to receive the tibial post; and

a structure providing *more than one physically separate and discontinuous points of cam action as the knee moves from extension to flexion.*

10. The distal femoral component of claim **9**, whereby the cam member of cam action is operative to minimize translation of the condylar protrusions relative to the bearing surface of the tibial component at the initiation of flexion.

Ex. 1001, 5:6–19 (emphasis added).

D. Alleged Ground of Unpatentability

Petitioner contends that claims 9 and 10 of the '426 patent are anticipated by PCT International Publication Number WO 99/27872, published June 10, 1999 (“Dennis”). Pet. 22. Petitioner also relies on the declaration testimony of Dr. Darryl D’Lima (Ex. 1003) in support of its Petition. *Id.* at 21.

II. ANALYSIS

A. *Claim Construction*

The issue before us is the proper construction of “a structure providing *more than one physically separate and discontinuous points of cam action as the knee moves from extension to flexion,*” as recited in independent claim 9. Ex. 1001, 5:6–15 (emphasis added).

Specifically, the issue is whether we construe this limitation to require two or more points of cam action that *contact the posterior surface of a tibial post*, as Patent Owner proposes (PO Resp. 11–33), or whether doing so would impermissibly read a limitation into the claim, as Petitioner argues (Pet. Reply 2).

a. Principles of Claim Construction

In this proceeding, we determine the meaning of a claim using the “broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b) (2017); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation approach).¹

In addition to the specification, the prosecution history plays an important role in claim construction. *Tempo Lighting, Inc. v. Tivoli, LLC*,

¹ On October 11, 2018, the USPTO revised its rules to harmonize the Board’s claim construction standard with that used in federal district court. *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). This rule change, however, applies to petitions filed after November 13, 2018, and does not apply to this proceeding. *Id.*

742 F.3d 973, 977 (Fed. Cir. 2014) (“In claim construction, this court gives primacy to the language of the claims, followed by the specification. Additionally, the prosecution history, while not literally within the patent document, serves as intrinsic evidence for purposes of claim construction. This remains true in construing patent claims before the PTO.” (citing *In re Morris*, 127 F.3d 1048, 1056 (Fed. Cir. 1997)). Indeed, the U.S. Court of Appeals for the Federal Circuit has indicated, in the context of an *inter partes* review, that “[t]he PTO should ... consult the patent’s prosecution history in proceedings in which the patent has been brought back to the agency for a second review.” *Microsoft Corp. v Proxyconn, Inc.*, 789 F.3d 1292 (2015) (citing *Tempo Lighting*, 742 F.3d at 798).

Along with the specification and prosecution history, we also give consideration to prior judicial constructions. Although the Federal Circuit has acknowledged that the Board “is not generally bound by a prior judicial construction of a claim term,” it has further advised that this “does not mean, however, that it has no obligation to acknowledge that interpretation or to assess whether it is consistent with the broadest reasonable construction of the term.” *Power Integrations, Inc. v. Lee*, 797 F.3d 1318, 1326 (Fed. Cir. 2015).

b. Express Claim Language

The express claim language reasonably supports Patent Owner’s and Petitioner’s interpretations.

Although the claim limitation merely recites, “a structure providing more than one physically separate and discontinuous points of cam action as

the knee moves from extension to flexion” (Ex. 1001, 5:5–15), the preamble recites, “a tibial component having a *bearing surface and superior tibial post with a posterior aspect*” (*id.* at 5:7–8 (emphasis added)).

On one hand, the claim language does not explicitly require the points of cam action to *contact only the posterior surface* of the tibial post, thereby reasonably supporting Petitioner’s proposed construction.

On the other hand, if the preamble is “necessary to give life, meaning, and vitality” to the claim, then the claim preamble should be construed as if in the balance of the claim. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999) (quoting *Kropa v. Robie*, 187 F.2d 150, 152 (CCPA 1951)).

In this particular case, the preamble refers to a tibial component having a *bearing surface* and superior tibial post having a *posterior aspect*. Ex. 1001, 5:6–9. The preamble does not recite an anterior aspect of the tibial post. *See id.* Claim 9 relies on a portion of the preamble as antecedent basis for the “tibial post” limitation in the body of the claim, which shows an intent to treat related language in the preamble as limiting. *Proveris Sci. Corp. v. Innovasystems, Inc.*, 739 F.3d 1367, 1372–73 (Fed. Cir. 2014) (treating preamble language as limiting when a portion of the language appeared in the body of the claim). The Specification also stresses the importance of multiple points of cam action on the posterior aspect, as further discussed below, which supports treating the preamble as limiting. *See id.* While the claimed limitation recites broadly “structure providing more than one physically separate and discontinuous points of cam action,” we conclude that “points of cam action” relates back to the preamble’s

description of a “tibial component having a *bearing surface* and superior tibial post with a *posterior aspect*,” upon which the cams engage, and that this aspect of the preamble limits the claim because (1) the preamble “gives life, meaning, and vitality” to the claim, (2) the preamble is used, in part, as antecedent basis for claim terms, and (3) the Specification stresses the importance of having multiple points of cam action with the posterior aspect.

Accordingly, the broadest reasonable interpretation when considering the preamble language to be limiting, supports Patent Owner’s interpretation that the bearing surface—on which the points of cam action contact—is located on the posterior aspect of the tibial post, and that the “points of cam action” contact the posterior aspect of the tibial post.

c. Specification

Patent Owner contends that the limitation in view of the Specification requires “a structure providing more than one physically separate and discontinuous points of cam action that contact the posterior surface of the tibial post.” PO Resp. 16–17 (citing Ex. 2007 ¶ 48). Patent Owner asserts that “[t]he *only* structure that the specification illustrates and describes is a structure providing multiple points of cam action engaging the posterior surface of the tibial post.” *Id.* at 17–18 (citing Ex. 1001, 3:54–57, 4:16–21, Figs. 2A–2D) (emphasis omitted, emphasis added).

Petitioner disagrees with Patent Owner, and asserts that the Specification “discloses that the cams may be placed anteriorly, including *anterior of the tibial post*.” Pet. Reply 4 (emphasis added). In support of this assertion, Petitioner cites to the following passage: “It should also be

noted that *the cam structures may be located at different locations from the posterior to the anterior aspect of the knee design*, as well as from the distal or proximal, depending on the implant size, patient physiology, desired range of motion, and other requirements.” *Id.* at 4–5 (quoting Ex. 1001, 4:16–21) (emphasis added).

Upon reviewing the ’426 patent, we agree with Patent Owner, and disagree with Petitioner’s suggestion that the Specification describes cams contacting the anterior surface of the tibial post. *See id.* at 4.

Although Petitioner’s relied-upon citation discloses placement of the cam structures “at *different locations* from the posterior to the anterior aspect of the knee design,” this is not a disclosure that the cam structures *engage or contact the anterior surface of the tibial post*, as Petitioner’s argument presumes. *See id.* In other words, *even if* the Specification describes locating the cam structures toward the anterior aspect of the knee design, we are not persuaded that these cam structures would contact the anterior surface of the tibial post.

Rather, we agree with Patent Owner and find that the Specification “is *focused entirely* on multiple points of cam action contacting or *engaging the posterior surface* of the tibial post.” PO Resp. 17 (citing Ex. 2007 ¶ 49) (emphases added).

For example, the title of the ’426 patent itself is “Multiple-Cam, Posterior-Stabilized Knee Prosthesis” (Ex. 1001, [54]) and the “Field of the Invention” provides that “[t]his invention relates generally to orthopedic surgery and, in particular, to a posterior stabilized knee prosthesis” (*id.* at 1:6–7). Moreover, the only embodiments disclosed within the ’426 patent

describe a structure with multiple points of cam action engaging the posterior surface of the tibial post. *See, e.g., id.* at Figs. 2A-2D.

Because the Specification focuses completely on embodiments where the points of cam contact the posterior surface of the tibial post, Petitioner's proposed construction is inconsistent with the Specification and unreasonably broad; only Patent Owner's construction is consistent with the Specification.

d. Prosecution History

During prosecution of the '426 patent, the applicant elected the species of Figures 2A-2C and 4 and represented that

[t]he point of novelty of claim 1, at least with respect to species 1, includes the pluralities of members at least partially bridging the intercondylar region, *such that at all times one of the members cooperates with the posterior aspect of the tibial post* through a range of motion from extension to flexion.

Ex. 1002, 56 (emphasis added). The election of species, which relies on the embodiment of Figures 2A-2C and F, supports Patent Owner's proposed construction.

In the notice of allowance of the '426 patent, the examiner states,

The following is an examiner's statement of reasons for allowance: *The plurality of cam members bridging the intercondylar region, which engage with the posterior aspect of the tibial post* throughout a range of motion is not well known in the art and therefore would not have been an obvious modification to one of ordinary skill in the art.

Ex. 1002, 65 (emphasis added). The examiner's reasons for allowance also support Patent Owner's proposed construction.

Petitioner attempts to marginalize the prosecution history and argues that “statements in a Notice of Allowance are not disclaimers.” Pet. Reply 8 (citation omitted). Even assuming that the statements are not disclaimers, this does not mean that we should disregard completely the examiner’s reasons for allowance. Indeed, the reasons for allowance are relevant in our claim construction analysis whether or not it would rise to the level of disclaimer. *See D’Agostino v. MasterCard Int’l Inc.*, 844 F.3d 945, 949 (Fed. Cir. 2016) (“[The prosecution history] material is relevant as reinforcing the evident meaning of the claim language at issue, whether or not it would meet standards for disclaimer or disavowal.”).

Petitioner also attempts to diminish the examiner’s reasons for allowance by arguing that “the Examiner’s actual language establishes that he was tracking the language of claim 1, not claim 9.” Pet. Reply 7.

Although Petitioner is correct in that the examiner’s reasons for allowance more closely track claim 1 than claim 9, neither the notice of allowance nor the examiner’s reasons for allowance are limited to claim 1, and to the exclusion of claim 9. Petitioner’s argument is premised on the assumption that the examiner committed error by overlooking claim 9 when he or she issued the notice of allowance, but we are not persuaded that the examiner committed any such error—especially when the examiner’s review of the specification may have reasonably led to the conclusion that claim 9 is as limited as the notice of allowance suggests. As such, we do not disregard the examiner’s reasons for allowance simply because the reasoning more closely tracks claim 1 than claim 9.

Because the examiner's reasons for allowance and the applicant's election of species evince that the claims require the multiple points of cam action to engage or cooperate with *the posterior aspect of the tibial post*, the prosecution history supports Patent Owner's proposed construction. *Tempo Lighting*, 742 F.3d at 977.

e. Related District Court Proceeding

In the Related District Court Proceeding, the parties filed a "Joint Claim Construction Chart" in which they *agreed* to construe "a structure providing more than one physically separate and discontinuous points of cam action as the knee moves from extension to flexion." Ex. 2006, 3 ("Agreed Constructions"). In particular, the parties agreed that this limitation should be construed as "a structure having at least two points of cam action, *each of which engages the posterior surface of the tibial post . . .*" *Id.* (emphasis added).

In the District Court's Claim Construction Order, the District Court accepted and applied the parties' agreed upon construction of this term. Ex. 3001, 18, n.12 ("The parties have agreed to constructions of four terms . . . [including] 'a structure providing more than one physically separate and discontinuous points of cam action as the knee moves from extension to flexion' . . . The Court will accept and apply those definitions.").

Because Patent Owner's proposed construction is substantially identical with the District Court's claim construction and the claim construction as agreed to by the parties in that proceeding, the prior judicial

interpretation supports Patent Owner’s construction. *PowerIntegrations*, 797 F.3d at 1326.

f. Summary

Upon reviewing the explicit claim language, the specification, the prosecution history, and the claim construction in the Related District Court Proceeding, we conclude that the limitation requires *two or more points of cam action that engage the posterior surface of a tibial post*.

g. Other Claim Terms

We determine that no other claim term requires express construction for the purposes of this Decision. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fec. Cir. 2011) (“[C]laim terms need only be construed ‘to the extent necessary to resolve the controversy’”) (internal quotation marks omitted).

B. Level of Ordinary Skill in the Art

Petitioner proposes that a person having ordinary skill in the art (“POSITA”) (1) would have had a bachelor’s degree in mechanical engineering, bioengineering, or other related field of science, as well as 3 to 7 years of related experience in the field of *artificial knee implants*; (2) would have had an advanced degree in mechanical engineering, bioengineering, or another related field of science, as well as 2 to 5 years of related experience in the field of *artificial knee implants*; or (3) would have been a practicing orthopedic surgeon with at least five years of experience,

as well as some number of years of experience in the design of *artificial knee implants*. Pet. 21–22 (citing Ex. 1003 ¶ 20).

Patent Owner’s expert, Mr. Drewry, proposes more broadly that a POSITA would have had (1) a bachelor’s degree in mechanical engineering or biomedical engineering combined with at least 1 to 3 years of post-graduate or industry work experience in *orthopedic implants*, or an equivalent combination thereof; or (2) have been a practicing orthopedic surgeon with a practice focusing on total knee replacement, with at least five years of experience. Ex. 2007 ¶ 12.

Petitioner criticizes Mr. Drewry’s qualifications as a POSITA. *See* Pet. Reply 23. Specifically, Petitioner asserts that “[a]ll of Mr. Drewry’s patents and publications are spine-related . . . [and] Mr. Drewry tailored his definition of an engineer POSITA to require only experience in ‘orthopedic implants’ . . . [and that the] Board should discount Mr. Drewry’s opinions about what a POSITA would understand . . . due to his lack of expertise and overly broad definition of a POSITA.” *Id.* (citing Ex. 2007 ¶ 12).

Notwithstanding Petitioner’s criticism of Mr. Drewry’s qualifications as a POSITA, we determine that Petitioner’s proposed level of ordinary skill in the art is unduly restrictive as requiring several years of experience “in the field” or “in the design” of artificial knee implants. Pet. 21–22. We are not persuaded that an engineer with general orthopedic implant experience—as opposed to artificial knee implant experience—would necessarily exclude that person from being a POSITA. Based on our review of the ’426 patent, the types of problems and solutions described in the ’426 patent, and Dennis, we adopt Patent Owner’s proposed level of ordinary skill. In particular, we

determine that a POSITA would have had either (1) a bachelor's degree in mechanical engineering or biomedical engineering combined with at least 1 to 3 years of post-graduate or industry work experience in orthopedic implants, or an equivalent combination thereof, or (2) have been a practicing orthopedic surgeon with a practice focusing on total knee replacement, with at least five years of experience.

We also determine that Petitioner's expert, Dr. D'Lima (Ex. 1003), and Patent Owner's experts, Mr. Drewry (Ex. 2007) and Dr. Bono (Ex. 2012), each have at least ordinary skill in the art at the time of the invention of the '426 patent, and are qualified to testify as to the knowledge of a POSITA at that time.

C. Anticipated by Dennis

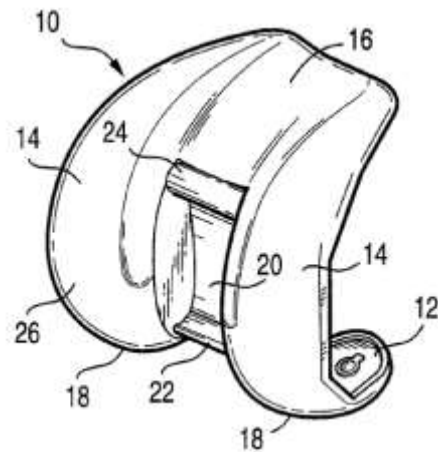
Petitioner submits that claims 9 and 10 are unpatentable as anticipated by Dennis. Pet. 22.

a. Principles of Anticipation

“To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently.” *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). “Anticipation is a question of fact” and “factual determinations by the PTO must be based on a preponderance of the evidence.” *In re Baxter Travenol Labs.*, 952 F.2d 388, 390 (Fed. Cir. 1991). A “preponderance of evidence” is defined as “evidence which as a whole shows that the fact sought to be proved is more probable than not.” Black's Law Dictionary 1064 (5th ed. 1979).

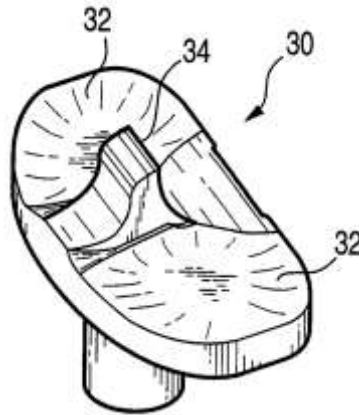
b. Dennis

Dennis discloses a knee prosthesis. Ex. 1006, 1:11–12. In particular, Dennis describes a femoral component with *two cams* and a tibial component for engaging the cams throughout knee flexion and extension. *See id.* at [57] (“The knee prosthesis includes a femoral component (10) with two cams (22, 24).”). To illustrate Dennis’s femoral component, we reproduce Dennis’s Figure 1, below:

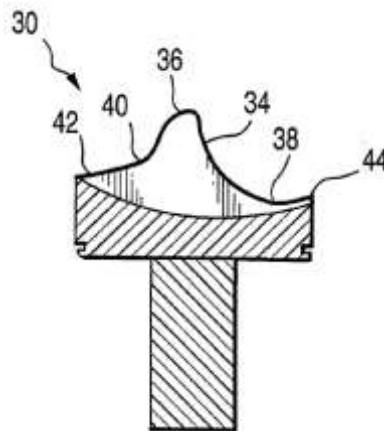


Dennis describes Figure 1 as depicting its femoral component 10. Ex. 1006, 5:10–12. Femoral component 10 includes slot 20 that runs down the middle of component 10. *Id.* at 5:25–26. *Two cams* (22, 24) are located across slot 20 and between condylar sections 14 of femoral component 10. *Id.* at 5:28–29. *First cam* 22 is located at the extreme posterior end and *second cam* 24 is located near the midpoint of femoral component 10 and towards the anterior end of the condylar sections. *See id.* at 5:29–3.

We also reproduce Figure 4 of Dennis, below:



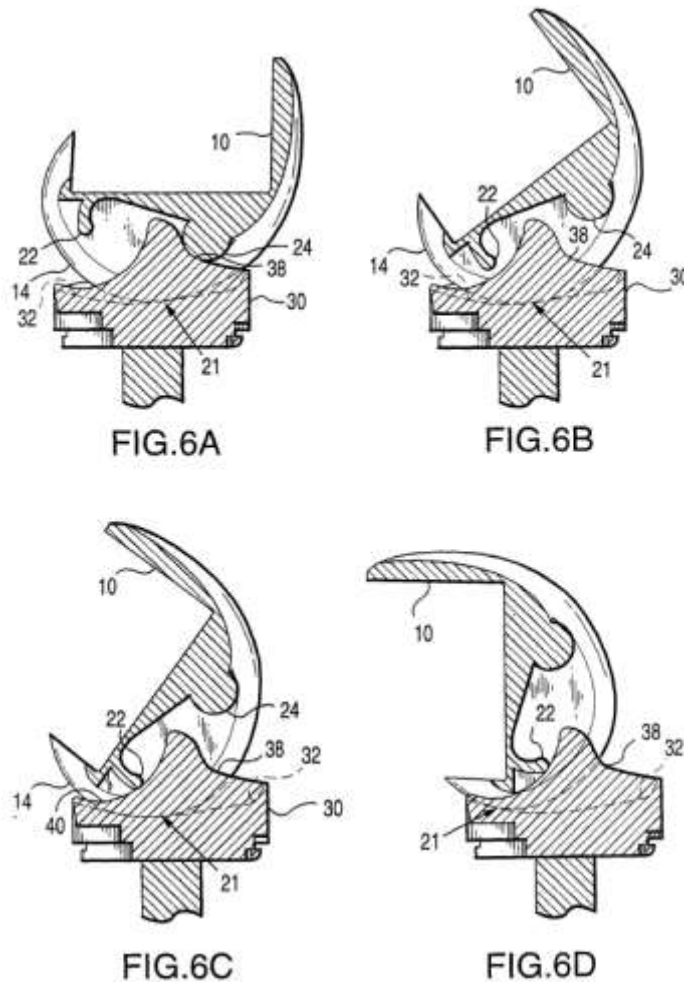
Dennis describes Figure 4 as depicting tibial component 30 with spine/cam 34 rising between recessed surfaces 32. *See id.* at 6:8–17. Recess surfaces 32 are designed to receive protruding condylar sections 14 of femoral component 10. *Id.* at 6:13–14. To illustrate the lateral side of spine/cam 34, we reproduce Dennis’s Figure 5, below:



Dennis describes Figure 5 as depicting lateral side of cam 34 (as taken along line 5-5 of Figure 3). *Id.* at 6:17. In particular, Figure 5 depicts spine/cam 34 as including lateral upper cam surface 36 dividing an anterior trough (misabeled as 38, rather than 40) from a posterior trough (misabeled as 40, rather than 38). *Id.* at 6:17–19; *compare id.* at Fig. 5, *with id.* at Figs. 6A–

6D (depicting the correct reference numerals of Dennis's anterior trough and posterior trough); *see also* Ex. 1003 ¶ 54, n.4 (testifying that the reference numerals in Figure 5 are erroneously swapped).

To illustrate the engagement between femoral component 10 and tibial component 30, we reproduce Dennis's Figures 6A, 6B, 6C, and 6D, below:



According to Dennis, Figures 6A, 6B, 6C, and 6D illustrate the interaction between femoral component 10 and tibial component 30 from full extension (0° flexion, Figure A), 30° flexion (Figure 6B), 60° flexion (Figure 6C), and

full flexion (90° flexion, Figure 6D). Ex. 1006, 6:21–29. Spine 34 of tibial component 30 engages posterior cam 22 and anterior cam 24 of femoral component 10 in a manner that produces sliding of femoral component 10 relative to tibial component 30 to emulate natural movement of a knee joint. *Id.* at 7:23–28. Figure 6A (0° flexion) depicts anterior cam 24 fully engaged with anterior trough 38 of tibial component 30. *Id.* at 6:2–29. Figure 6B (30° flexion) depicts cams 24, 22 as not engaged with spine 34. *Id.* at 7:3–6. Figure 6C (60° flexion) depicts cam 22 as “impinged” upon tibial posterior trough 40. *Id.* at 7:9–11. Figure 6D (90° flexion) depicts cam 22 as fully engaged with tibial posterior trough 40. *Id.* at 7:16–20.

c. Petitioner’s Challenge

Petitioner submits that claims 9 and 10 are unpatentable as anticipated by Dennis. Pet. 22. As claim 10 depends from independent claim 9, our analysis begins with claim 9. Ex. 1001, 5:6–19.

i. Independent Claim 9

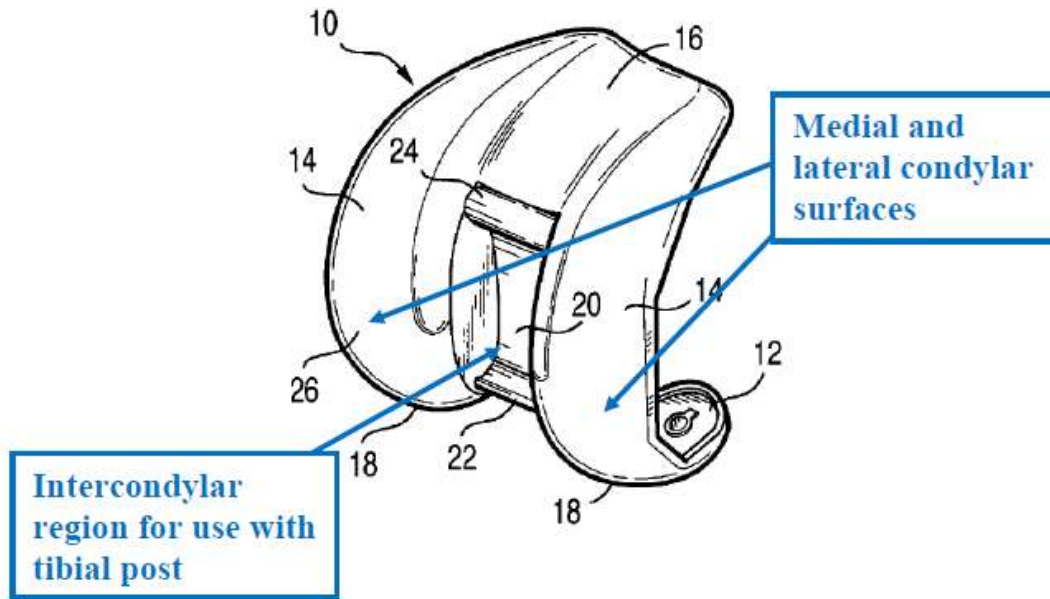
9. A distal femoral knee-replacement component configured for use with a tibial component having a bearing surface and superior tibial post with a posterior aspect, the distal femoral component comprising:

a body having a pair of medial and lateral condylar protrusions and an intercondylar region therebetween dimensioned to receive the tibial post; and

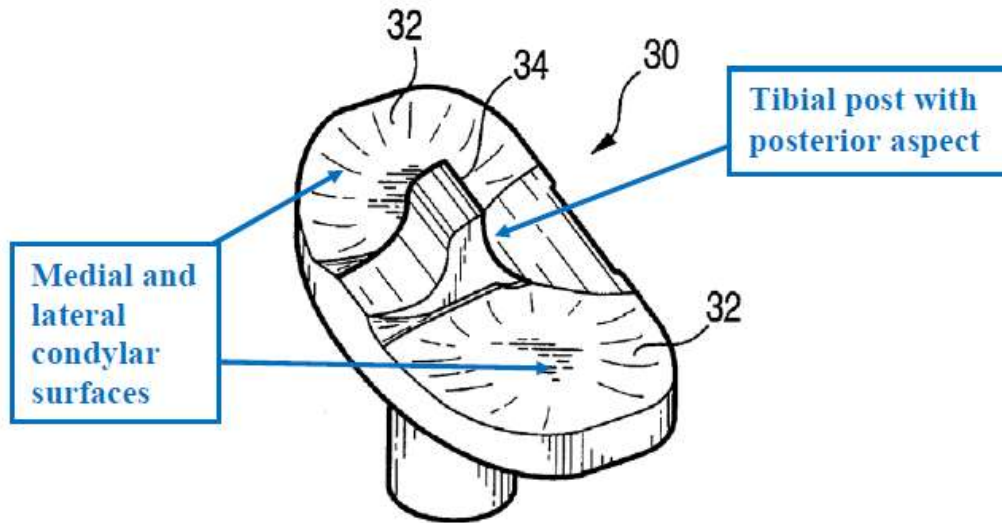
a structure providing more than one physically separate and discontinuous points of cam action as the knee moves from extension to flexion.

Ex. 1001, 5:6–15.

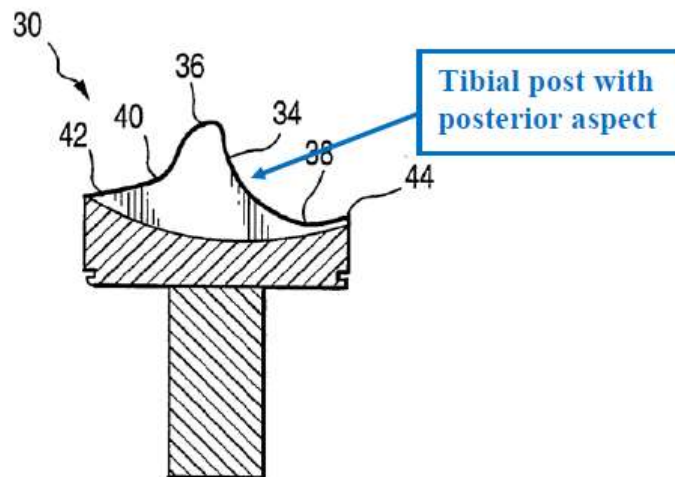
In addressing the claimed “distal femoral knee-replacement component configured for use with a tibial component,” as recited in the preamble, Petitioner submits an annotated version of Dennis’s Figure 1 (Pet. 23), which we reproduce, below:



According to Petitioner, and as shown above in the annotated Figure 1, Dennis’s femoral component 10 has medial and lateral condylar bearing surfaces and an intercondylar region configured to receive Dennis’s tibial post 30. Pet. 23–24 (citing Ex. 1003 ¶ 53). Petitioner also submits an annotated version of Dennis’s Figure 4 to illustrate the tibial post (Pet. 24), which we also reproduce, below:



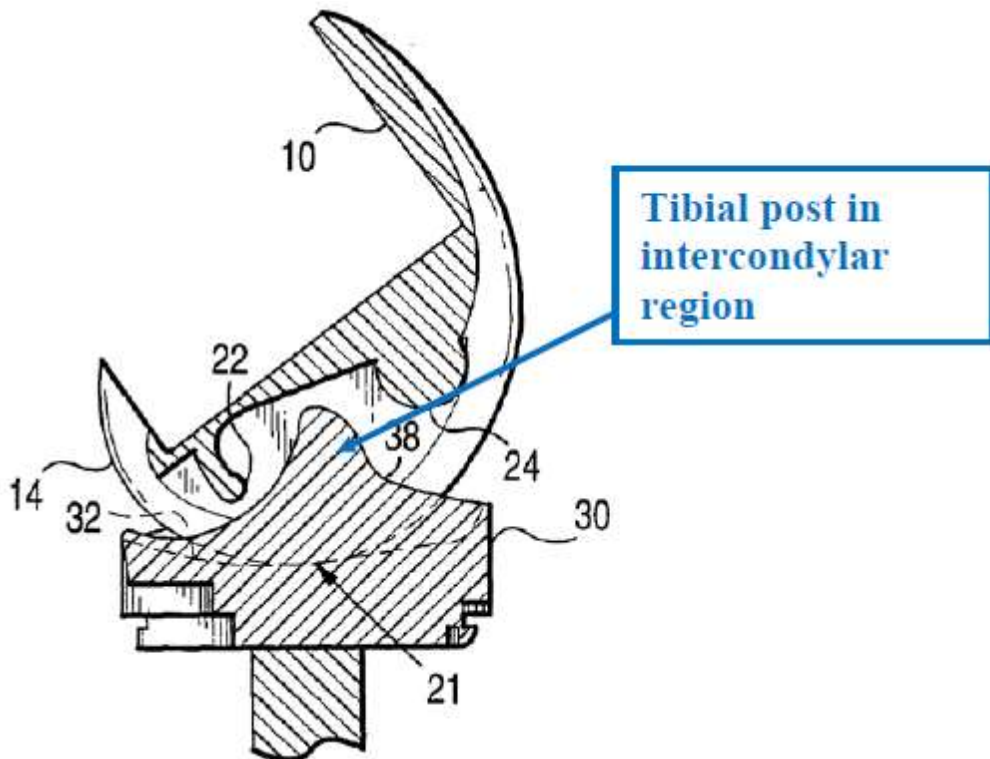
According to Petitioner, and as shown above in the annotated Figure 4, Dennis discloses tibial post 30 with recessed surfaces 32 designed to receive the protruding condylar sections 14 of femoral component 10. *See id.* at 23–24 (citing Ex. 1006, 4:18–19, 6:14–15). To further illustrate the posterior aspect of Dennis’s tibial post 30, Petitioner submits an annotated version of Dennis’s Figure 5 (Pet. 25), which we reproduce, below:



According to Petitioner, and as shown above in annotated Figure 5, tibial post includes anterior trough (misabeled as 40, should be 38) and

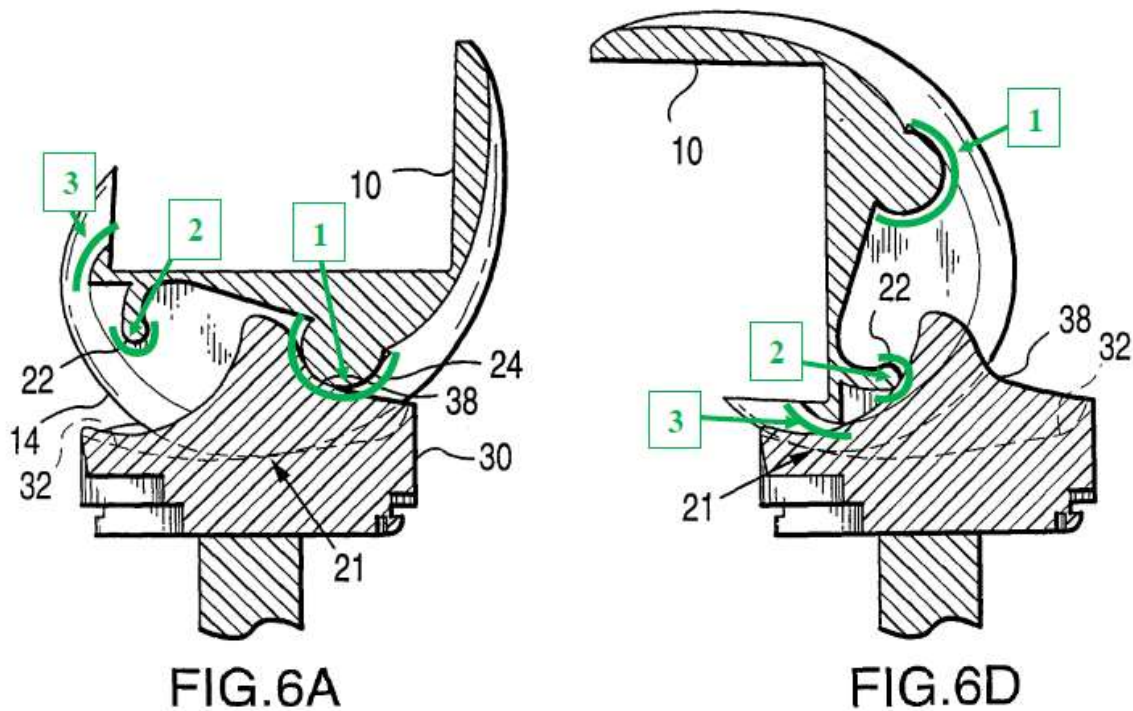
posterior trough (mislabeled as 38, should be 40), which is the posterior aspect of Dennis’s tibial post. *See* Pet. 24–25 (citing Ex. 1006, 6:15–19; Ex. 1003 ¶ 54); *see also id.* at 25 n.5 (“In Figure 5 of Dennis, reference numbers 40 and 42 are erroneously swapped with corresponding reference numbers 38 and 44.”).

To address the claimed “body having a pair of medial and lateral condylar protrusions and an intercondylar region therebetween dimensioned to receive the tibial post,” Petitioner refers to the annotated version of Dennis’s Figure 1 (reproduced *supra* p. 20) as illustrating the claimed “medial and lateral condylar protrusions” and “intercondylar region dimensioned to receive a tibial post” (Pet. 27), and further submits an annotated version of Dennis’s Figure 6B (Pet. 28), which we reproduce below:



According to Petitioner, the above annotated Figure 6B depicts tibial post 30 positioned within the “intercondylar region” space between cams 22, 24, or slot. Pet. 28 (citing Ex. 1003 ¶ 58). Petitioner explains that cams 22, 24 are located across slot 20 (shown in Dennis’s Fig. 1) and between the condylar sections 14 of femoral component 10. *See id.* (citing Ex. 1006, 5:25–29).

To address the claimed “structure providing more than one physically separate and discontinuous points of cam action as the knee moves from extension to flexion,” Petitioner submits annotated versions of Dennis’s Figures 6A and 6B (Pet. 30), which we reproduce, below:



According to Petitioner, the above annotated Figures 6A and 6B depict *three points of cam action*, which together satisfy the “more than one . . . points of cam action.” Pet. 29–30 (citing Ex. 1003 ¶¶ 61–65). In particular, and as identified by the annotated numbers “1,” “2,” and “3,”

each of these three contacts are points of cam action, and “[o]ne of those points of cam action is with the anterior surface of the tibial post, and two points of cam action are with the posterior surface.” *Id.* at 29 (citing Ex. 1003 ¶¶ 61–65).

As discussed above, we construe the claim limitation “more than one physically separate and discontinuous points of cam action . . .” to require *two or more points of cam action that engage the posterior surface of a tibial post.* *Supra* Part II.A.f. Because Dennis’s cam 24—denoted by Petitioner as cam “1”—contacts the *anterior surface* of the tibial post, cam 24/“1” does not qualify as one of the claimed “two or more points of cam action.” Accordingly, our analysis will focus on whether alleged cams “2” and “3” satisfy the claimed limitation.

In support of Petitioner’s assertion, Dr. D’Lima testifies that each of cam “2” and cam “3” contacts posterior trough 40. Ex. 1003 ¶¶ 62, 63. Dr. D’Lima acknowledges that “Dennis does not expressly refer to the structure highlighted as No. 3 as a ‘cam,’” but, nevertheless, testifies that “a POSITA would have understood that the structure highlighted as No. 3 is, in fact, a cam.” *Id.* at ¶ 64.

Based on the above, Petitioner argues that Dennis anticipates claim 9.

ii. Dependent Claim 10

Claim 10 depends directly from claim 9 and further recites, “whereby the cam member of cam action is operative to minimize translation of the condylar protrusions relative to the bearing surface of the tibial component at the initiation of flexion.” Ex. 1001, 5:16–19.

Petitioner asserts that this limitation “simply requires a cam member that is operative to minimize some amount of translation at the initiation of flexion.” Pet. 33 (citing Ex. 1003 at ¶ 67). To satisfy this claim limitation, Petitioner relies on Dennis’s disclosure that “anterior cam 24 and posterior cam 22 act as steps to limit the extent of anterior-posterior movement.” Pet. 34 (citing Ex. 1006, 7:25–26; Ex. 1003 ¶ 69). Dr. D’Lima testifies in support of this finding. Ex. 1003 ¶ 69.

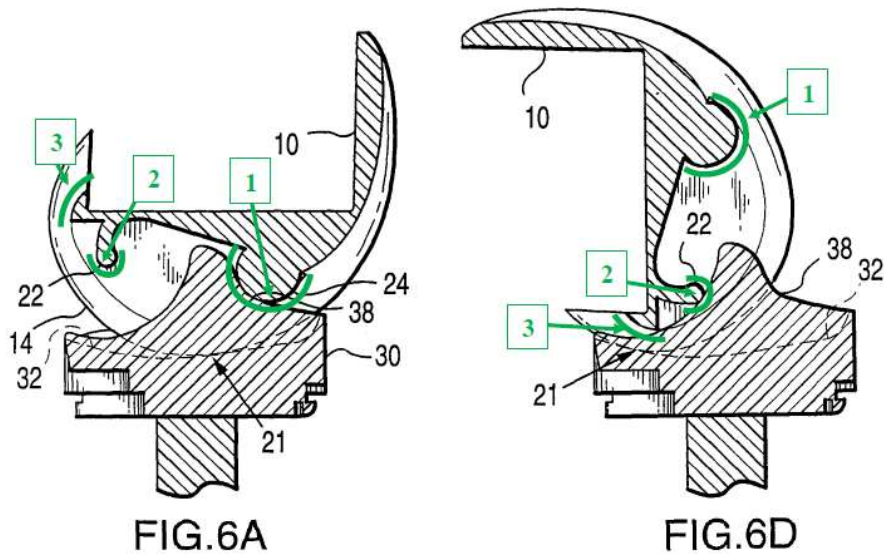
d. Patent Owner’s Argument

Patent Owner argues that Dennis “makes absolutely no reference to a second cam contacting the posterior surface of the tibial post” and asserts that a POSITA “would not recognize the drawings in Dennis as disclosing a second cam contacting the posterior surface of the tibial post.” PO Resp. 34 (citing Ex. 2007 ¶¶ 69–73).

We agree, for the reasons below.

e. Our Analysis

As discussed above (*supra* Part II.C.c), Petitioner relies on the following figures of Dennis for disclosing two “cams” that contact a posterior surface of a tibial post, copies of which we reproduce below:



According to Petitioner, and as shown in the above annotated versions of Dennis’s Figures 6A and 6D, structures “2” and “3” are cams that contact the posterior surface of tibial post. Pet. 30 (“Figure 6D illustrates posterior cam 22 (labeled 2) and a third cam (labeled 3) contacting the posterior surface 40 of the tibial post at 90° of flexion.”). Petitioner’s assertion, however, is not supported by a preponderance of the evidence.

Petitioner acknowledges that “Dennis does not expressly refer to the structure labeled 3 as a ‘cam,’” but nonetheless asserts that “a POSITA would have understood that structure labeled 3 is, in fact, a cam.” Pet. 31–32, n.9 (citing Ex. 1003 ¶ 64). Indeed, Petitioner’s expert, Dr. D’Lima testifies in support of this assertion. Ex. 1003 ¶ 60, n.5 (“Dennis discloses this limitation based on the two posterior cams labeled 2 and 3.”).

The evidence does not support, however, Petitioner’s assertion that structure “3” is a cam.

Dennis explicitly describes only two cams; anterior cam 24 and posterior cam 22. *See, e.g.*, Ex. 1006; Abstract, 1:4–8, 5:28–30. As even

admitted by Petitioner's expert, Dennis makes no reference as to what structure "3" is. *See* Ex. 2008, 115:16–18 (“[Structure 3] is not disclosed in the text.”). Rather, Petitioner's assertion and Dr. D'Lima's opinion that structure "3" is a cam relies almost completely on Dennis's Figure 6D (*see* Pet. 29–32), despite the fact that that structure has a sharp leading edge, unlike anterior cam 24 and posterior cam 22. Dr. Drewry credibly testifies that “[n]o engineer who practices in this field would design a cam with a relatively sharp leading edge.” Ex. 2007 ¶ 72. Because Dennis does not disclose what structure "3" is, and structure "3" has a sharp leading edge—unlike cams 22 and 24—we are not persuaded that this structure is a cam.

Having weighed the competing testimony of Dr. D'Lima (Ex. 1003) and Mr. Drewry (Ex. 2007), we find Mr. Drewry more persuasive and credit his testimony that “no person skilled in the art would reasonably conclude that Dennis discloses a third cam as alleged by D'Lima” (Ex. 2007 ¶ 71) in-part because the alleged third cam's “sharp leading edge would adversely affect natural knee movement” (*id.* at ¶ 69).

For the foregoing reasons, Petitioner has not demonstrated by a preponderance of the evidence that Dennis discloses two or more points of cam action that engage the posterior surface of a tibial post, as required by claims 9 and 10.

III. CONCLUSION

Petitioner has failed to establish by a preponderance of evidence that Dennis anticipates claims 9 and 10 of the '426 patent under 35 U.S.C. § 102.

IV. ORDER

In consideration of the foregoing, it is hereby
ORDERED that claims 9 and 10 of the '426 patent have not been
shown to be anticipated by Dennis; and

FURTHER ORDERED that this is a Final Written Decision. Parties
to the proceeding seeking judicial review of the decision must comply with
the notice and service requirements of 37 C.F.R. § 90.2.

IPR2018-00315
Patent 6,558,426 B1

PETITIONER:

Calvin P. Griffith
David M. Maiorana
Kenneth S. Luchesi
Matthew W. Johnson
JONES DAY
cpgriffith@jonesday.com
dmaiorana@jonesday.com
kluchesi@jonesday.com
mwjohnson@jonesday.com

PATENT OWNER:

Todd Walters
Robert Mukai
Jonathan Bowser
Christopher Cherry
David Lesht
Frederick Michaud
todd.walters@bipc.com
robert.mukai@bipc.com
jon.bowser@bipc.com
christopher.cherry@bipc.com
dlesht@emcpc.com
fmichaud@capshawlaw.com