

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ARTHREX, INC.
Petitioner

v.

BONUTTI SKELETAL INNOVATIONS, LLC
Patent Owner

Case IPR2013-00631
Patent 5,921,986

Before MICHAEL R. ZECHER, BENJAMIN D. M. WOOD, and
MITCHELL G. WEATHERLY, *Administrative Patent Judges*.

WEATHERLY, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background*

Arthrex, Inc. (“Arthrex” or “Petitioner”) filed a corrected petition (Paper 6, “Pet.” or “Petition”) to institute an *inter partes* review of claims 64, 65, 67, 69, 70, 72–76, 80, 82, and 83 (the “challenged claims”) of U.S. Patent No. 5,921,986 (Exhibit 1001, the “’986 patent”). 35 U.S.C. § 311. Bonutti Skeletal Innovations, LLC (“Bonutti” or “Patent Owner”) timely filed a Preliminary Response. Paper 9 (“Prelim. Resp.”). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides as follows:

(a) THRESHOLD.—The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 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.

35 U.S.C. § 314(a).

Generally, Bonutti contends that the Petition should be denied for all challenged claims. Based on our review of the record, we conclude that Arthrex is reasonably likely to prevail in demonstrating that all challenged claims are not patentable.

Arthrex contends that the challenged claims are not patentable under 35 U.S.C. §§ 102 and/or 103 based on the following grounds (Pet. 14–60):

References	Basis	Claims challenged
French Patent 2 696 338 (“Perrin”) (Ex. 1016)	§ 102	64, 65, 67, 69, 72–76, 80, 82, and 83
US 5,269,809 (“Hayhurst”) (Ex. 1003)	§ 102	64, 65, 67, 69, 72–76, 80, 82, and 83

References	Basis	Claims challenged
US 5,306,301 (“Graf”) (Ex. 1004)	§ 102	64, 65, 67, 69, 70, 72, 74–76, 80, 82, and 83
US 5,769,894 (“Ferragamo”) (Ex. 1005)	§ 102	64, 65, 67, 69, 70, 72–76, 80, 82, and 83
W. Seitz, <i>Repair of Tibiofibular Syndesmosis with a Flexible Implant</i> , JOURNAL OF ORTHOPEDIC TRAUMA, Vol. 5, No. 1, 78–82 (1991), (“Seitz”) (Ex. 1007) and Graf	§ 103	64, 65, 67, 69, 70, 72–76, 80, 82, and 83
Graf and Hayhurst	§ 103	76, 80, 82, and 83
Ferragamo and German Patent 9002844.9 (“Giers”) (Ex. 1017)	§ 103	73
Graf and Giers	§ 103	73
Hayhurst and Seitz	§ 103	70
Perrin and Seitz	§ 103	70

For the reasons described below, we institute an *inter partes* review of claims 64, 65, 67, 69, 70, 72–76, 80, 82, and 83 based on the anticipation and obviousness challenges specified below.

B. *Related Proceedings*

Arthrex identifies, as a related proceeding, the co-pending litigation in the United States District Court for the Middle District of Florida captioned *Bonutti Skeletal Innovations LLC v. Arthrex, Inc.*, Case Number 6:13-cv-00620-ACC-TBS. Pet. 1. Arthrex also identifies *Arthrex, Inc. v. Bonutti Skeletal Innovations, LLC*, IPR2013-00632 and *Arthrex, Inc. v. Bonutti*

Skeletal Innovations, LLC, IPR2013-00633 relating to U.S. Patent No. 8,147,514 as being related to this proceeding. *Id.*

C. Arthrex's Motion to Correct the Petition

In its Preliminary Response, Bonutti argues that the Petition should be dismissed because it fails to meet the requirements of 35 U.S.C. § 312 and 37 C.F.R. §§ 42.6, 42.104, 42.105, and 42.106. Prelim. Resp. 3–7. Specifically, Bonutti contends that the Petition fails to meet these statutory and regulatory requirements because it “did not include copies of two of the patents relied upon in support of the Petition,” namely, Perrin and Giers. *Id.* at 3. Instead, Arthrex filed English translations of Perrin and Giers, as Exhibits 1002 and 1005, respectively, without the original foreign-language patents. *Id.* at 4.

Arthrex subsequently moved under 37 C.F.R. § 42.104(c)¹ to correct the Petition by replacing Exhibits 1002 and 1006 with new Exhibits 1016 and 1017, which include the original foreign-language patents along with their translations. Paper 12, 3. In support of its motion, Arthrex asserts that its failure to include the original foreign-language versions of Perrin and Giers “was unintentional and inadvertent.” *Id.* at 2. According to Arthrex, the attorney responsible for gathering and uploading the exhibits inadvertently failed to combine the original foreign patents with their respective translations as a single exhibit, as Arthrex originally intended to do. *Id.* at 4. Arthrex contends that Bonutti did not raise the issue before

¹ This regulation states: “A motion may be filed that seeks to correct a clerical or typographical mistake in the petition. The grant of such a motion does not change the filing date of the petition.” 37 C.F.R. § 42.104(c).

filing its Preliminary Response, and that Bonutti was not prejudiced materially by the error. *Id.* at 4–5.

Bonutti opposes Arthrex’s motion to correct the Petition. According to Bonutti, Arthrex failed to comply with the requirement of 35 U.S.C. §§ 312(a)(3)(A) and (a)(5) that copies of patents and printed publications relied upon in a petition be included with the petition. Paper 13, 1. Bonutti argues that we lack authority to apply 37 C.F.R. § 42.104(c) to excuse a failure to comply with a statutory requirement. *Id.* at 1–3. Bonutti further argues that Arthrex’s motion does not establish credibly that its failure to provide the original patent documents was a clerical error that is correctable under 37 C.F.R. § 42.104(c). *Id.* at 3–5. Bonutti contends that the declarations supporting Arthrex’s assertion that the error was inadvertent and unintended “provide no factual information, cite no documentary support other than the Petition, and amount to simply a bald assertion of inadvertence.” *Id.* at 4–5.

We grant Arthrex’s motion to correct the Petition. We find credible the sworn testimony of Arthrex’s counsel that its filing of English-language translations of the two foreign patent documents, unaccompanied by the original documents, was inadvertent and unintended. We have considered Bonutti’s arguments to the contrary and find them unpersuasive. Bonutti’s argument that granting Arthrex’s motion constitutes waiver of a statutory requirement is based on circular reasoning. This argument rests upon the proposition that it attempts to prove: that Arthrex’s error was not a clerical error, but rather a wholesale failure to comply with the statute. On the other hand, if we deem it to be a clerical error, then Arthrex complied with 35 U.S.C. § 312(a)(5) but for that error. In that regard, we previously have

deemed similar errors to be clerical in nature and have permitted their correction under 37 C.F.R. § 42.104(c). *See ABB, Inc. v. ROY-G-BIV Corp.*, IPR2013-00063, Paper 21 at 7 (Jan. 16, 2013) (permitting petitioner to correct error of uploading the wrong exhibits with petition); *Syntoleum Corp. v. Neste Oil Oyj*, IPR2013-00178, Paper 21 at 5 (Jul. 22, 2013) (permitting petitioner to correct error of uploading incorrect exhibit with petition). Consequently, we conclude that Arthrex's error is clerical in nature and subject to correction under 37 C.F.R. § 42.104(c).²

D. The '986 Patent

The '986 patent describes a “method and apparatus for securing sections of a fractured bone and/or securing body tissue to bone.” Ex. 1001, col. 1, ll. 5–6. Figure 2, reproduced below, is a partial cross section view illustrating an apparatus suitable for performing the claimed method of positioning body tissue relative to bone. *Id.* at col. 1, ll. 49–52.

² Bonutti has not alleged, much less shown, that it was prejudiced by Arthrex's failure to accompany the references' translations with the foreign-language originals. Indeed, Arthrex provided Bonutti with all of the information that it needed to respond to the Petition: (1) the contents of the references, in English; (2) the original drawings; and (3) the patent numbers, which Bonutti could have used to obtain the publicly available foreign-language originals.

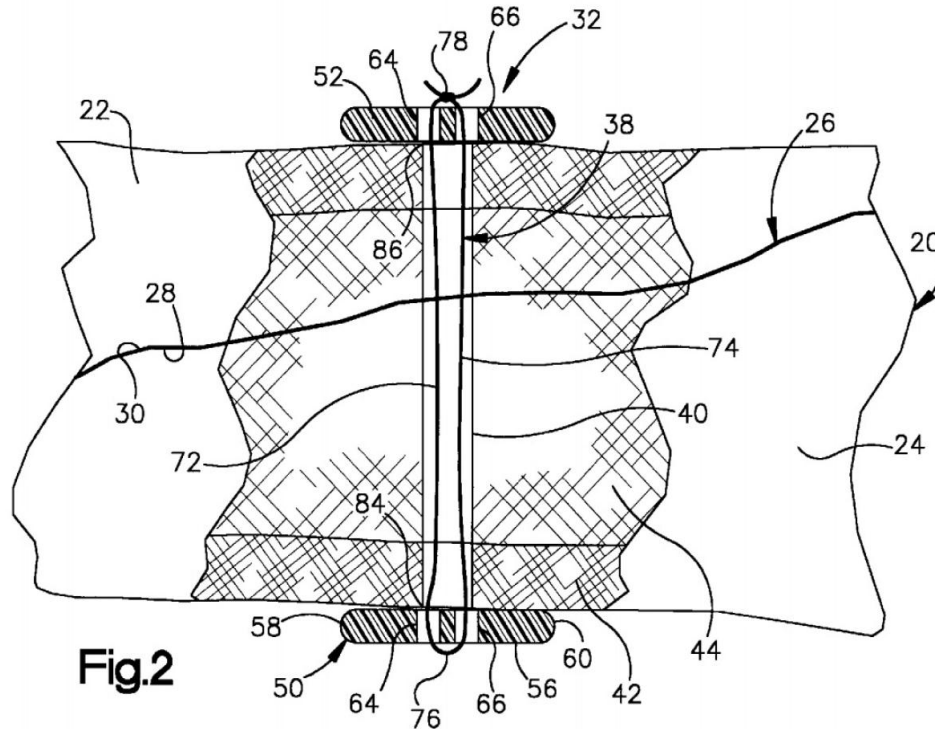


Figure 2 is a partial cross section view that illustrates two bone fragments being secured together with two anchors connected by a suture that interconnects the anchors and passes through a channel in the bone fragments.

Bone 20 has two sections 22, 24 and passage 40 extending through sections 22, 24. *Id.*, col. 2, ll. 28–56; fig. 2. Suture assembly 32 includes flexible suture 38, which extends through passage 40 and presses anchors 50, 52 against opposite sides of bone 20 via tension in suture 38. *Id.*

A second embodiment of suture assembly 32 is illustrated in Figure 3, which is reproduced below. *Id.* at col. 1, ll. 53–56.

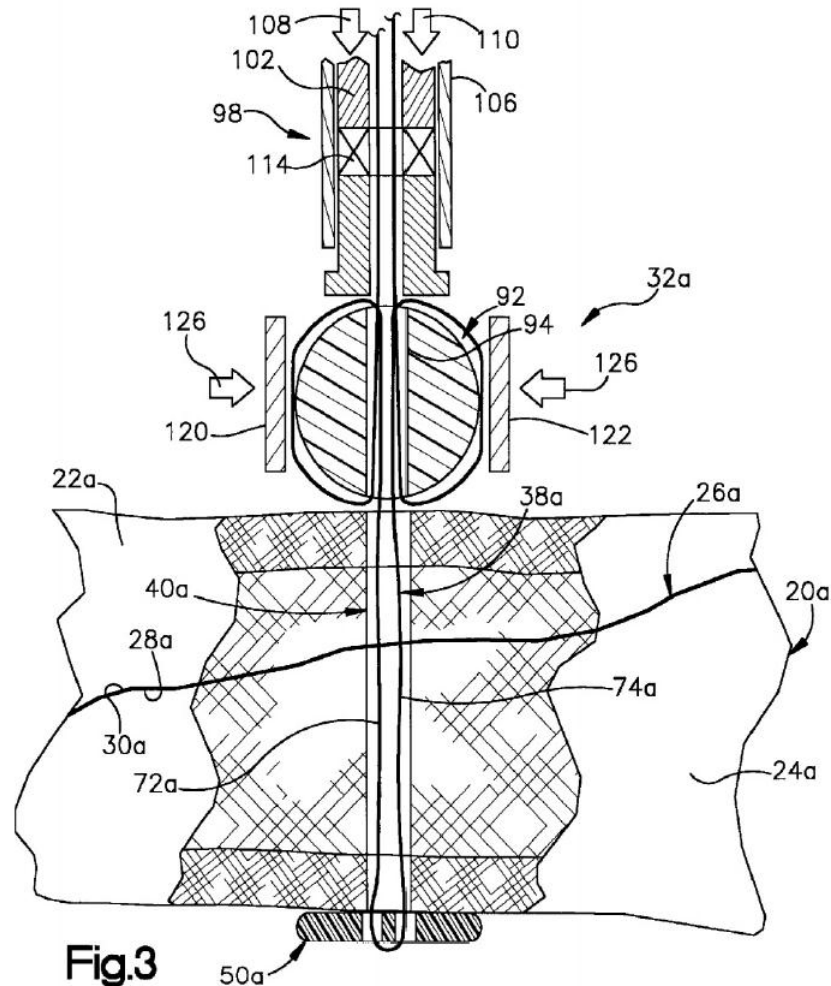


Fig.3

Figure 3 is a partial cross section view illustrating a second embodiment of the suture assembly used to secure two portions of bone to each other including an anchor abutting one side of the secured bone fragments and a suture retainer abutting the other side of the bone.

Claims 64 and 76 are the independent claims among the challenged claims and illustrative of the claimed subject matter. Both claims are directed to a “method of positioning body tissue” relative to bone, and they recite:

64. A method of positioning body tissue relative to a bone, said method comprising the steps of moving a first anchor connected with a suture through a passage extending between opposite sides of a bone, tensioning the suture to transmit force

from the suture to the first anchor with the first anchor on a first side of the bone, connecting a second anchor with the suture, and transmitting force from the second anchor to the body tissue to press the body tissue against a second side of the bone under the influence of force transmitted from the first anchor through the suture to the second anchor.

Ex. 1001, col. 25, ll. 51–61.

76. A method of positioning body tissue relative to bone, said method comprising the steps of moving an anchor connected with a suture through a passage extending between opposite sides of a bone, tensioning the suture to transmit force from the suture to the anchor with the anchor on a first side of the bone, gripping the suture with a suture retainer, and transmitting force from the suture retainer to the body tissue to press the body tissue against a second side of the bone under the influence of force transmitted from the anchor through the suture to the suture retainer.

Ex. 1001, col. 26, ll. 52–61.

E. Claim Interpretation

As a step in our analysis for determining whether to institute a trial, we interpret the claims. Consistent with the statute and the legislative history of the AIA, we analyze patentability using the broadest reasonable interpretation of the claims. *See* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012); 37 CFR § 42.100(b).

Arthrex proposes specific interpretations for “body tissue,” “anchor,” “suture,” “connecting,” “predetermined force,” “gripping,” and “suture retainer.” Pet. 9–11. Bonutti does not interpret expressly any of these terms (*see generally* Prelim. Resp.). We will address each claim term identified by Arthrex in turn.

1. Body Tissue

Arthrex contends that we should interpret “body tissue” as “soft or hard body tissue,” i.e., including bone. Pet. 10. Arthrex proffers expert testimony from Dr. Steve E. Jordan, M.D., explaining how the proposed interpretation is supported by the Specification. Ex. 1011, ¶¶ 26 and 27. According to Dr. Jordan, the Specification distinguishes between “body tissue” and “fibrous body tissue” in a way that suggests that “body tissue” should encompass more than fibrous body tissue. *Id.* ¶ 27. Thus, we adopt Arthrex’s proposed construction for purposes of this decision.

2. Anchor

All challenged claims recite the term “anchor.” Ex. 1001, col. 25, l. 51 – col. 28, l. 12. Arthrex contends that we should interpret anchor as a “device for securing another article.” Pet. 10. While the Specification does not define “anchor” expressly, it uses the term consistently with Arthrex’s proposed construction. *See* Ex. 1001, col. 2, ll. 56–64 (suture anchors pressed against opposite sides of a broken bond to hold bone fragments “firmly together”). Arthrex’s proposed construction is also consistent with one definition of “to anchor,” which is to “fix firmly.” THE OXFORD DESK DICTIONARY AND THESAURUS, AMERICAN EDITION 26 (1997) (“OXFORD DESK DICTIONARY”). We, therefore, adopt Arthrex’s proposed construction for purposes of this decision.

3. Suture

Arthrex contends that we should interpret “suture” as a “flexible construct for approximating one article relative to another.” Pet. 10. This proposed construction, to the extent we understand it, seems unreasonably broad, particularly given that a “suture” is well known in the medical context

to mean a “thread or wire” used for “joining of the edges of a wound or incision by stitching.” OXFORD DESK DICTIONARY at 808. Because we do not find it necessary or helpful to substitute this well-understood definition for one couched almost entirely in vagaries such as “construct,” “approximating,” “article,” and “relative,” we adopt the dictionary definition as the proper construction of “suture” for purposes of this decision.

4. Connecting

Challenged claims 64, 65, 67, 69, 70, and 72–75 recite “connecting.” Arthrex contends that we should interpret “connecting” as “linking.” Pet. 10. Similar to our analysis of “suture” above, we do not believe the proposed construct clarifies the term itself or that an explicit claim construction is necessary at this stage of the proceeding.

5. Predetermined Force

Challenged claims 67 and 82 recite “predetermined force.” Arthrex contends that we should interpret “predetermined force” as meaning “an amount of force necessary to approximate one article relative to another article.” Pet. 11. In context, claim 67 recites “determining when a predetermined force has been transmitted from the first anchor through the suture.” Claim 64 recites “tensioning the suture to transmit force from the suture to the first anchor with the first anchor on a first side of the bone.” Thus, it is apparent that this “predetermined force” refers to the force transmitted from the first anchor to the first side of the bone.

The Specification describes this force as resulting from the tension applied to limbs 72 and 74 of suture 58 as follows:

When the knot 78 is formed, a predetermined tension is present in the limbs 72 and 74 of the suture 38. This results in the suture anchors 50 and 52 being pressed firmly against the

bone 20 with a predetermined force. This predetermined force is maintained during and after tying of the knot 78.

When the bone suture assembly 32 is to be used to treat the fracture 26 in the bone 20, the two sections 22 and 24 of the bone are pressed together at the fracture 26 to align the side surfaces 28 and 30 of the fracture.

Ex. 1001, col. 4, ll. 7–14.

We determine that the “predetermined force” of claim 67 refers to the force exerted by the first anchor against the first side of the bone. We further determine that the characterization of this force as being “predetermined” plainly refers to a level of force that is known or selected before the method is practiced. Although the Specification never specifies a numeric value for this predetermined force, it describes the predetermined level of force as one that presses complementary portions of bone “together at the fracture 26 to align the side surfaces 28 and 30 of the fracture.” *Id.* at col. 4, ll. 13–14. The phrase “predetermined force” is used similarly in connection with repairing a bone fragment and tensioning fibrous tissue that is connected to the bone fragment as follows:

As tension is applied to the limbs 72*e* and 74*e* of the suture 38*e*, the bone fragment 154 is pulled toward the right (as viewed in FIG. 8) to move the side surface 28*e* on the bone fragment into alignment with the side surface 30*e* on the main bone 20*e*. As this occurs, the fibrous body tissue 158 is stretched or tensioned. While a predetermined force is transmitted through the limbs 72*e* and 74*e* to the suture anchor 50*e* and the bone fragment 154 to firmly press the bone fragment against the main bone 20*e*, a knot 78*e* is tied to interconnect the limbs 72*e* and 74*e*. While the predetermined tension is maintained and the knot 78*e* tied, the second anchor 52*e* is firmly pressed against the side surface of the main bone 20*e*.

Id. at col. 13, ll. 34–46.

We, therefore, determine that “predetermined force” refers to a level of force that is known or selected before performing the recited method and that is sufficient to accomplish the intended repositioning and repair of body tissue.

6. Gripping

Challenged claims 76, 80, 82, and 83 recite “gripping the suture with the suture retainer.” Arthrex contends that we should interpret “gripping” as “holding.” Pet. 11. We do not substitute “holding” for “gripping” as Arthrex suggests because doing so at this stage of the proceeding adds no clarity beyond the plain meaning of “gripping.”

7. Suture Retainer

Challenged claims 76, 80, 82, and 83 recite a “suture retainer.” Arthrex contends that we should interpret “suture retainer” to mean “a device configured to retain suture.” Pet. 11. As with “gripping” above, we see no reason to limit “suture retainer” as suggested by Arthrex, and we, therefore, decline to do so at this stage of the proceeding.

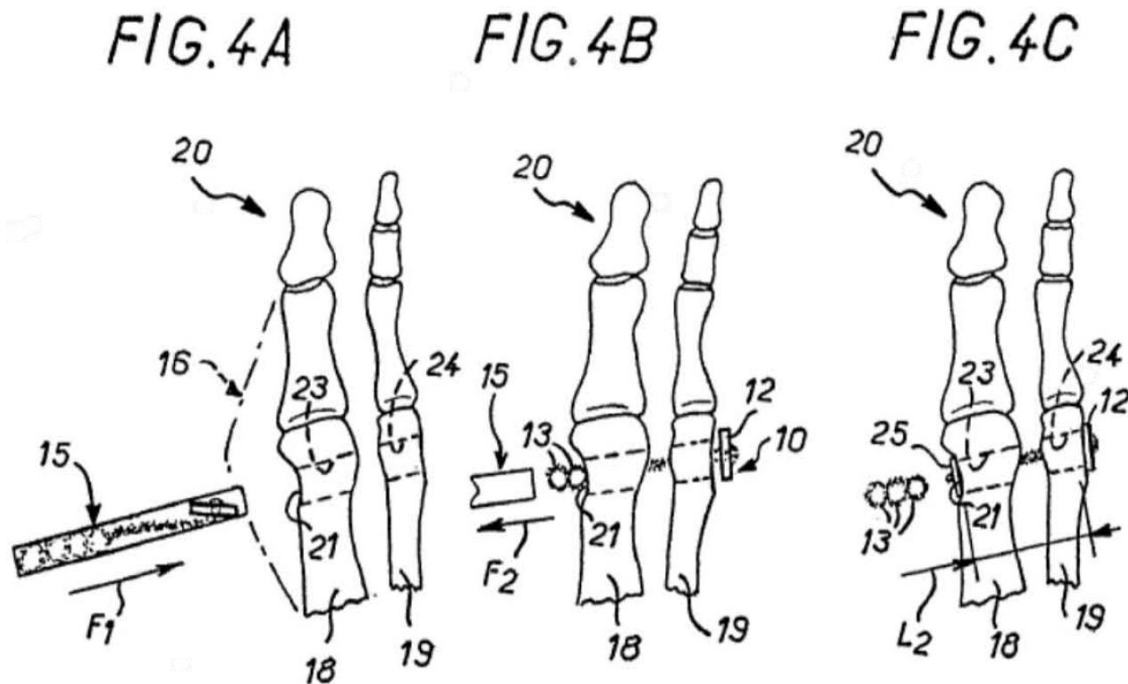
II. ANALYSIS

A. Anticipation

Arthrex contends that Perrin, Hayhurst, Graf, and Ferragamo each anticipate a wide variety of the challenged claims. Bonutti does not respond substantively to any of Arthrex’s evidence of anticipation. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). With this standard in mind, we address each alleged anticipation challenge below.

1. Perrin and Claims 64, 65, 67, 69, 72–76, 80, 82, and 83

Arthrex contends that Perrin anticipates claims 64, 65, 67, 69, 72–76, 80, 82, and 83 of the '986 patent. Pet. 11–19. Perrin describes an improved artificial ligament design for connecting bones and stabilizing joints. Ex. 1016, pg. 1 of translation. Figures 4A–4C, reproduced below, illustrate Perrin's invention:



Figures 4A, 4B, and 4C are diagrammatic top views illustrating various successive phases of implementation of the artificial ligament during a surgical operation.

Figures 4A–4C show that Perrin's improved artificial ligament comprises a cord of synthetic fibers having at one end stop head 12 and at the opposite end several mooring components 13. Stop head 12 has a substantially cylindrical shape and a length that is much larger than its cross-sectional diameter. *Id.* at 2–3; figs. 4A–4C. The entire ligament is placed in tube 15 for implantation, with the ligament extending over the length of the tube and stop head 12 folded down against the cord. *Id.*, fig. 4A. Figures

4A–4C depict the manner in which the artificial ligament is used to connect the first and second metacarpals of a foot³ to treat *hallux valgus* (a bunion). Aligned holes 23 and 24, which have a diameter essentially that of tube 15, are drilled through the median zone 21 of first metacarpal bone 18 and second metacarpal bone 19. *Id.* at 4; fig. 4A. Tube 15, along with the artificial ligament, is run successively through holes 23 and 24 and then withdrawn, leaving the artificial ligament in place. Stop head 12 then is placed crosswise in contact with second metacarpal 19 to secure the ligament to it. *Id.* at 4, figs. 4B, 4C. Finally, retaining pin 25 is run through ring-shaped mooring component 13 to secure the artificial ligament to first metacarpal 18 on the side opposite second metacarpal 19, thus ensuring that the two metacarpal bones are maintained close together. *Id.* at 5; fig. 4C.

In support of its assertion that Perrin anticipates claims 64, 65, 67, 69, 72–76, 80, 82, and 83, Arthrex sets forth the foregoing teachings of Perrin, provides a detailed claim chart explaining how each claim limitation is disclosed in Perrin, and provides the expert testimony of Steve E. Jordan, M.D. Pet. 11–19; Ex. 1011, ¶¶ 47–63. For example, with respect to independent claim 64, Arthrex contends that Perrin’s use of stop head 12, retaining pin 25, and elongated body 11 correspond, respectively, with the claimed use of the “first anchor,” “second anchor,” and “suture.” Pet. 13. For independent claim 76, Arthrex identifies Perrin’s retaining pin 25 as the “suture retainer.” *Id.* at 17. Upon review of Arthrex’s analysis and the evidence of record, we determine that Arthrex has demonstrated that there is

³ The relevant bones in the foot are more commonly referred to as metatarsal bones. *See* <http://www.merriam-webster.com/dictionary/metatarsal> (last viewed Feb. 22, 2014). However, we will use the term “metacarpal” to conform to Perrin’s terminology.

a reasonable likelihood that it would prevail in showing that Perrin anticipates claims 64, 65, 67, 69, 72–76, 80, 82, and 83.

2. *Hayhurst and Claims 64, 65, 67, 69, 72–76, 80, 82, and 83*

Arthrex contends that Hayhurst anticipates claims 64, 65, 67, 69, 72–76, 80, 82, and 83. Pet. 19–26. Arthrex bases its contentions upon the description of the use of Hayhurst's suture anchor 10 as illustrated in Figures 6 and 7, which are reproduced below.

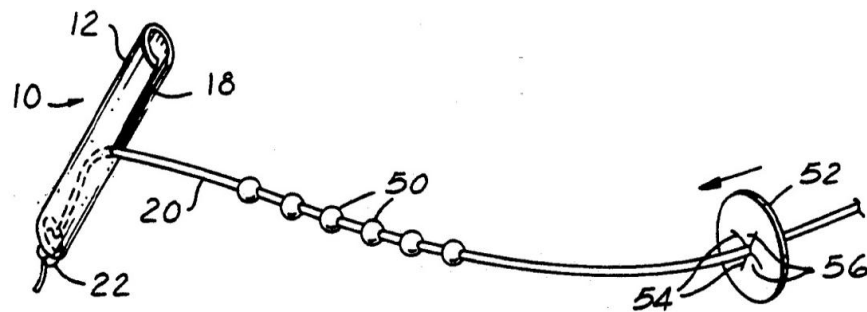


Fig. 6.

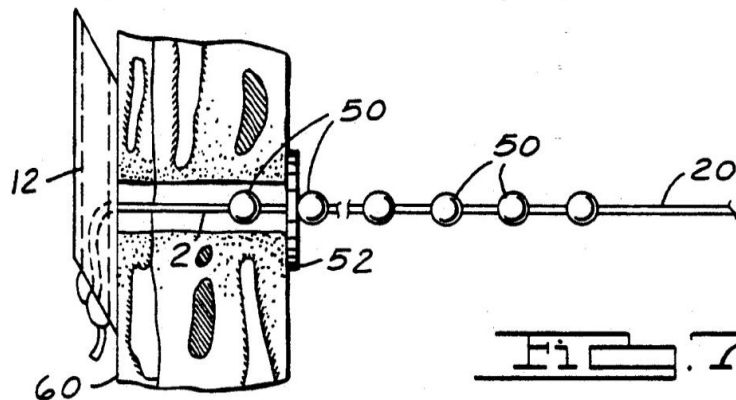


Fig. 7.

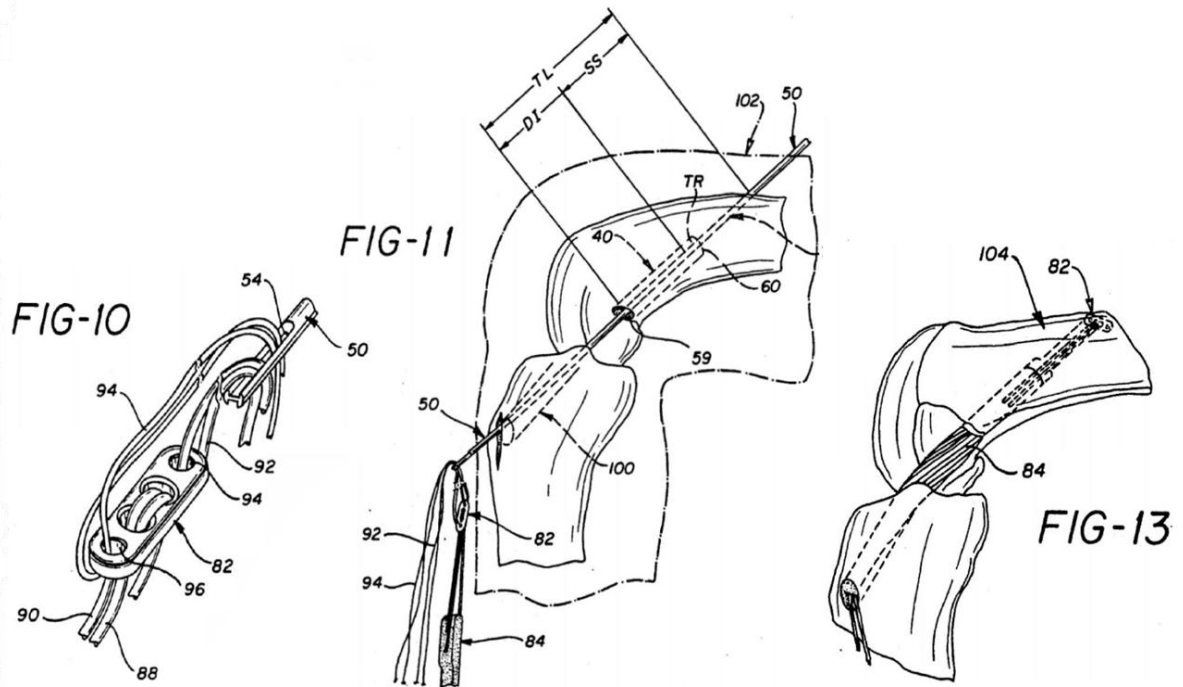
Hayhurst's Figure 6 illustrates suture anchor 10 with locking suture member 52. Figure 7 illustrates Hayhurst's device as it may be used to assist in holding a bone fragment in position for reattachment to the bone from which it fragmented.

Arthrex provides a detailed claim chart explaining how Hayhurst describes each limitation set forth in claims 64, 65, 67, 69, 72–76, 80, 82, and 83. Pet. 20–26. Arthrex also provides expert testimony from Dr. Jordan

in support of its challenges to independent claims 64 and 76. Ex. 1011, ¶¶ 64–72. For example, Arthrex contends that the claimed use of Hayhurst’s anchor 10, washer 52, and suture 20 correspond, respectively, with the claimed use of the “first anchor,” “second anchor,” and “suture.” Pet. 19–21. For independent claim 76, Arthrex contends that the claimed use of Hayhurst’s anchor 10, washer 52, and suture 20 correspond, respectively, with the claimed use of the “anchor,” “suture retainer,” and “suture.” Pet. 24–25. Upon review of Arthrex’s analysis and the evidence of record, we determine that Arthrex has demonstrated that there is a reasonable likelihood that it would prevail in showing that Hayhurst anticipates claims 64, 65, 67, 69, 72–76, 80, 82, and 83.

3. Graf and Claims 64, 65, 67, 69, 70, 72, 74–76, 80, 82, and 83

Arthrex asserts that Graf anticipates claims 64, 65, 67, 69, 70, 72, 74–76, 80, 82, and 83. Pet. 26–34. Graf describes a device and method for securing tissue within a patient, for example, a system and method for attaching an anterior cruciate ligament (ACL) graft in the knee. Ex. 1004, col. 1, ll. 2–15. Figures 10, 11, and 13, reproduced below, illustrate Graf’s system and method:



Graf's Figures 10, 11, and 13 schematically illustrate the system and method of attaching a graft in the knee joint of a patient.

Figures 10, 11, and 13 show that Graf's system comprises graft attachment device 82 attached to patellar tendon graft 84 by sutures 88, 90. Ex. 1004, col. 4, l. 67 – col. 5, l. 2. Lead suture 92 and trailing suture 94 are threaded through filament carrying holes 94, 96 in graft attachment device 82, and then threaded through slot 54 in passing pin 50. *Id.* at col. 5, ll. 18–21. Passing pin 50 is inserted through pre-drilled channels in the tibia and femur and then through the quadriceps and skin, pulling lead suture 92 and trailing suture 94 through the tibial and femoral channels until they emerge through the skin. *Id.* at col. 5, ll. 22–25. Lead suture 92 then is pulled until graft attachment device 82 emerges from femoral passage 72, at which point trailing suture 94 is pulled while graft 84 is pulled at the opposite end to seat device 82 on the femoral cortex. *Id.* at col. 5, ll. 26–40. Finally, “[t]he tibial end of the graft is thereafter secured conventionally.” *Id.* at col. 5, ll. 41–42.

Independent claim 64 and its dependent claims 65, 67, 69, 70, 72, 74, and 75 require “transmitting force from the second anchor to the body tissue to press the body tissue against a second side of the bone.” Ex. 1001, col. 25, ll. 57–59. Independent claim 76 and its dependent claims 80, 82, and 83 require “transmitting force from the suture retainer to the body tissue to press the body tissue against a second side of the bone.” *Id.* at col. 26, ll. 58–60. Arthrex asserts that Graf inherently discloses these limitations. Pet. 27–28 (claim 64), 32–33 (claim 76). First, Arthrex relies upon Graf as “disclos[ing] that the suture (sutures 88 and 90 and graft 84) is secured conventionally on the tibial side with a second anchor.” Pet. 27 (citing Ex. 1004, col. 5, ll. 36–42). Second, Arthrex contends that Figure 4 of Giers “illustrates a conventional manner of securing the tibial end of the graft utilizing a button secured against an outer surface of the tibia.” *Id.* at 27–28 (citing Ex. 1011 ¶¶ 74–77). Arthrex then concludes that *Graf’s* reference to “conventional” techniques for securing the suture inherently teaches the recited step of “transmitting force” from the second anchor or suture retainer to the second side of the bone. *Id.* at 28.

We disagree. “Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates.” *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349 (Fed. Cir. 2002) (citations and internal quotation marks omitted). “Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (citations and internal quotation marks omitted). Here, Arthrex seems to be arguing that Graf’s reference to securing the tibial end of the

graft “conventionally” inherently refers to Gier’s manner of doing so. It may be possible that Gier’s conventional manner of securing the tibial end of the graft satisfies the requirement to transmit force through a second anchor or suture retainer to the bone. Gier’s securing method may also have been used in conjunction with Graf’s implantation method. However, Arthrex does not allege that Gier’s procedure is the only possible manner of securing the tibial end of the graft. *See, e.g.*, Ex. 1011, ¶ 76 (Dr. Jordan testifying that Gier’s figure 4 teaches *a* conventional manner of securing tibial end of graft). Based on the evidence presented by Arthrex in its Petition, we cannot conclude that the step of transmitting force from the second anchor (or suture retainer) is an inherent feature of Graf’s method. Accordingly, we determine that Arthrex has not demonstrated that there is a reasonable likelihood that it would prevail in showing that Graf anticipates any of the challenged claims.

4. *Ferragamo and Claims 64, 65, 67, 69, 70, 72–76, 80, 82, and 83*

Arthrex contends that Ferragamo anticipates claims 64, 65, 67, 69, 70, 72–76, 80, 82, and 83. Pet. 34–41. Arthrex bases its contentions upon the description of the use of Ferragamo’s graft 10 to repair an ACL as shown in Figure 1, which is reproduced below.

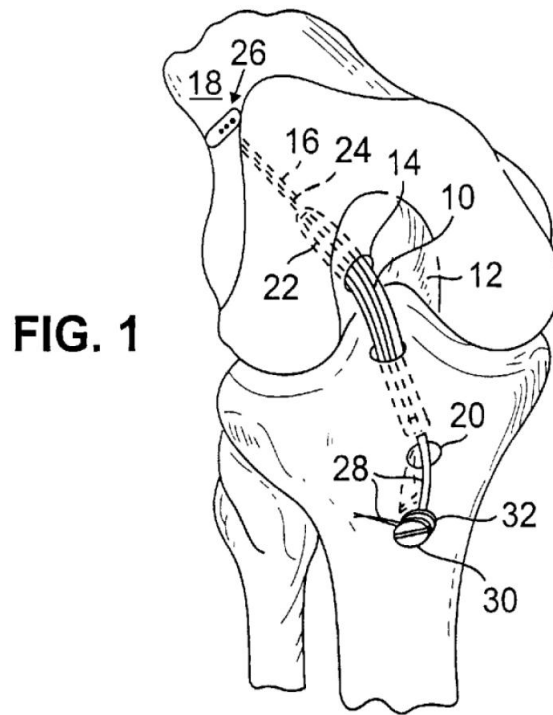


FIG. 1

Ferragamo's Figure 1 illustrates a knee joint into which a patellar tendon graft is implanted to repair an ACL.

Arthrex provides a detailed claim chart explaining how Ferragamo describes each limitation of claims 64, 65, 67, 69, 70, 72–76, 80, 82, and 83. Pet. 35–41. Arthrex also provides expert testimony from Dr. Jordan in support of its challenge to claim 73. Ex. 1011, ¶ 84–86. Arthrex contends that Ferragamo discloses uses of graft fixation member 26, fixation screw 30, and the combination of tissue graft 10 with sutures 24 and 28, respectively, as the claimed uses of the “first anchor,” “second anchor,” and “suture” recited in independent claim 64. Pet. 35–36. For independent claim 76, Arthrex identifies Ferragamo's uses of graft fixation member 26, fixation screw 30, and the combination of tissue graft 10 with sutures 24 and 28 as the claimed uses of the “anchor,” “suture retainer,” and “suture” recited in independent claim 64. Pet. 39. Upon review of Arthrex's analysis and the evidence of record, we determine that Arthrex has demonstrated that

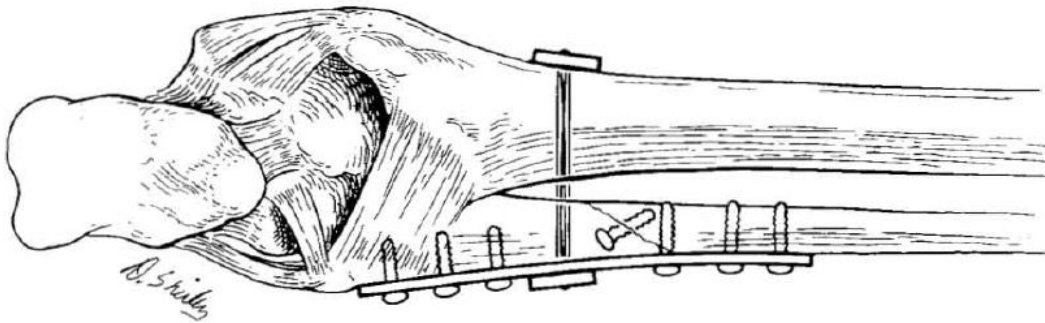
there is a reasonable likelihood that it would prevail in showing that Ferragamo anticipates claims 64, 65, 67, 69, 70, 72–76, 80, 82, and 83.

B. Obviousness

Arthrex contends that selections of all challenged claims are obvious in light of five different pairs of the prior art references. Bonutti does not respond substantively to any of Arthrex’s evidence of obviousness.

1. Seitz and Graf Compared to Claims 64, 65, 67, 69, 70, 72–76, 80, 82, and 83

Arthrex contends that claims 64, 65, 67, 69, 70, 72–76, 80, 82, and 83 are unpatentable under 35 U.S.C. § 103 over the combination of Seitz and Graf. Pet. 42–52. Seitz teaches a technique for the flexible repair of ankle fractures. Ex. 1007 at 78. Figure 2 of Seitz (rotated to fit the page) illustrates this technique and is reproduced below:



Seitz’s Figure 2 illustrates a pair of anchors attached by a suture and positioned against opposing sides of bone and to hold a fractured bone in place to facilitate healing of the fracture.

As shown in Figure 2 of Seitz, a hole is drilled through the tibia and fibula of the lower leg, and “[a] double-thickness of No. 5 braided polyester suture” is passed through the bones. Ex. 1007 at 80; fig. 2. The suture then is tightened and tied over polyethylene pullout buttons on opposite sides of the tibia and fibula. *Id.*

Arthrex contends that Seitz discloses all limitations of the challenged claims except that it fails explicitly to disclose: (1) moving an “anchor connected with a suture through a passage extending between opposite sides of a bone” as recited in all challenged claims (Pet. 45, 50); and (2) moving a “first anchor connected with a suture through a passage extending between opposite sides of a bone . . . with the first anchor in a first orientation” as recited in claims 65 and 80 (Pet. 46, 51). For these missing limitations Arthrex turns to Graf. In particular, Arthrex asserts that Graf’s “elongated member 12 (sic, 82)” corresponds to a first anchor narrow enough to fit in the channel because that is how Graf describes its use. Pet. 43 (citing Ex. 1004, col. 5, ll. 28–32); *see also* Pet. 45, 46, 50, 51 (citing Ex. 1004, col. 5, ll. 28–32).

Arthrex contends that modifying Seitz’s first anchor to be narrow enough to fit in a channel, as Graf teaches, amounts to “combining prior art elements according to known methods to yield predictable results.” Pet. 43. Arthrex also argues that it would have been obvious to an ordinarily skilled artisan to modify Seitz’s first anchor in this manner “in order to further simplify [Seitz’s] technique and reduce trauma to the patient.” Pet. 44. The testimony of Arthrex’s expert, Dr. Jordan, supports this contention. Ex. 1011 ¶¶ 109–117. In view of Arthrex’s analysis and the evidence of record, we determine that Arthrex has demonstrated that there is a reasonable likelihood that it would prevail in showing that the combination of Seitz and Graf renders claims 64, 65, 67, 69, 70, 72–76, 80, 82, and 83 unpatentable under 35 U.S.C. § 103.

2. Graf and Hayhurst Compared with Claims 76, 80, 82, and 83

Arthrex contends that claims 76, 80, 82, and 83 are unpatentable under 35 U.S.C. § 103 over the combination of Graf and Hayhurst. Pet. 53–56. For reasons expressed in part II.A.3 above, we have determined that Graf does not describe expressly the use of a suture retainer as recited in independent claim 76 and its dependent claims 80, 82, and 83. However, we also have determined that Arthrex is likely to prevail in establishing that Hayhurst anticipates claims 76, 80, 82, and 83 and thus describes the use of the claimed suture retainer as Hayhurst’s locking washer 52. *See* part II.A.2 above. Arthrex contends that an ordinarily skilled artisan would have been motivated to use Hayhurst’s locking washer 52 to grip Graf’s suture more firmly to transmit the needed force to the suture to seat the anchor against the bone. Pet. 53 (citing Ex. 1011, ¶¶ 88–94). In view of Arthrex’s analysis and the evidence of record, we determine that Arthrex has demonstrated that there is a reasonable likelihood that it would prevail in showing that the combination of Graf and Hayhurst renders claims 76, 80, 82, and 83 unpatentable under 35 U.S.C. § 103.

3. Ferragamo and Giers Compared with Claim 73

Arthrex contends that claim 73 is unpatentable under 35 U.S.C. § 103 over the combination of Ferragamo and Giers. Pet. 56–57. Claim 73 depends from claim 64. For reasons expressed above, we have determined that Arthrex is reasonably likely to prevail in establishing that Ferragamo anticipates claim 73. *See* part II.A.4 above. Nonetheless, Arthrex contends that, if it were found that Ferragamo fails to describe that “the suture has first and second sections which extend from the first anchor to the second anchor,” then Giers teaches this limitation. Pet. 57. Arthrex further

contends that an ordinarily skilled artisan would be motivated to modify Ferragamo to include the claimed first and second sections of the suture “to simplify the surgical procedure and allow knot fixation for each button.” Pet. 56 (citing Ex. 1011, ¶¶ 96–99). Arthrex also contends that the modification would be a simple substitution to use two sections extending from the first button to the second button with predictable results. Pet. 57. In view of Arthrex’s analysis and the evidence of record, we determine that Arthrex has demonstrated that there is a reasonable likelihood that it would prevail in showing that the combination of Ferragamo and Giers renders claim 73 unpatentable under 35 U.S.C. § 103.

4. Graf and Giers Compared with Claim 73

Arthrex contends that claim 73 is unpatentable under 35 U.S.C. § 103 over the combination of Graf and Giers. Pet. 57–59. For the reasons expressed above, we have determined that Graf fails to describe the second anchor of independent claim 64 and the suture retainer of independent claim 76. *See* Part II.A.3 above. Arthrex proffers no evidence that Giers teaches either limitation. Pet. 57–59. We, therefore, determine that Arthrex fails to present evidence that is reasonably likely to establish that the combination of Graf and Giers renders claim 73 unpatentable under 35 U.S.C. § 103. For this reason, we deny Arthrex’s petition as it relates to the challenge to the patentability of claim 73 as obvious over Graf and Giers.

5. Hayhurst and Seitz Compared with Claim 70

Arthrex contends that claim 70 is unpatentable under 35 U.S.C. § 103 over the combination of Hayhurst and Seitz. Pet. 59. Claim 70 depends from claim 69, which depends from claim 64, and recites “said step of securing the suture relative to the second anchor includes tying a knot in the

suture.” Arthrex admits that Hayhurst fails to describe tying a knot as recited in claim 70. *Id.* at 59. Nonetheless, Arthrex contends that Seitz teaches this limitation. *Id.* Arthrex further contends that an ordinarily skilled artisan would be motivated to “tie a knot in the suture 20 in order to provide more length options to retain the washer 52 and to vary tension on the suture.” Pet. 59 (citing Ex. 1011, ¶¶ 101–103). In view of Arthrex’s analysis and the evidence of record, we determine that Arthrex has demonstrated that there is a reasonable likelihood that it would prevail in showing that the combination of Hayhurst and Seitz renders claim 70 unpatentable under 35 U.S.C. § 103.

6. Perrin and Seitz Compared with Claim 70

Arthrex contends that claim 70 is unpatentable under 35 U.S.C. § 103 over the combination of Perrin and Seitz. Pet. 59–60. Arthrex admits that Perrin fails to describe tying a knot as recited in claim 70. Nonetheless, Arthrex contends that Seitz teaches this limitation. *Id.* Arthrex further contends that an ordinarily skilled artisan would be motivated to “tie a knot in the suture 20 in order to provide more length options to retain the washer 52 and to vary tension on the suture.” Pet. 59 (citing Ex. 1011, ¶¶ 105–107). Arthrex’s statement appears to refer to Hayhurst’s suture 20 and washer 52 because neither Perrin nor Seitz describe suture 20 or washer 52. We, therefore, determine that Arthrex fails to present evidence that is reasonably likely to establish that the combination of Perrin and Seitz renders claim 70 unpatentable under 35 U.S.C. § 103. For this reason, we deny Arthrex’s petition as it relates to the challenge to the patentability of claim 70 as obvious over Perrin and Seitz.

III. CONCLUSION

For the foregoing reasons, we determine that the information presented in the Petition establishes that there is a reasonable likelihood that Arthrex would prevail in showing the unpatentability of claims 64, 65, 67, 69, 70, 72–76, 80, 82, and 83 of the '986 patent. At this stage of the proceeding, we have not made a final determination as to the patentability of any challenged claim.

IV. ORDER

For the reasons given, it is:

ORDERED that the Petition is granted and an *inter partes* review is instituted for claims 64, 65, 67, 69, 70, 72–76, 80, 82, and 83 of the '986 patent on the following grounds of unpatentability:

- A. Claims 64, 65, 67, 69, 72–76, 80, 82, and 83 as anticipated by Perrin;
- B. Claims 64, 65, 67, 69, 72–76, 80, 82, and 83 as anticipated by Hayhurst;
- C. Claims 64, 65, 67, 69, 70, 72–76, 80, 82, and 83 as anticipated by Ferragamo;
- D. Claims 64, 65, 67, 69, 70, 72–76, 80, 82, and 83 as obvious over the combination of Seitz and Graf;
- E. Claims 76, 80, 82, and 83 as obvious over the combination of Graf and Hayhurst;
- F. Claim 70 as obvious over the combination of Hayhurst and Seitz; and
- G. Claim 73 as obvious over the combination of Ferragamo and Giers.

FURTHER ORDERED that no other grounds of unpatentability alleged in the Petition are authorized for this *inter partes* review.

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '986 patent is instituted commencing on the entry date

of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is given of the institution of a trial.

FURTHER ORDERED that an initial conference call with the Board is scheduled for 2:00 PM Eastern Time on April 1, 2014. The parties are directed to the Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,765–66 (Aug. 14, 2012) for guidance in preparing for the initial conference call and should be prepared to discuss any proposed changes to the Scheduling Order entered with this Decision and any motions the parties anticipate filing during the trial.

Case IPR2013-00631

Patent 5,921,986

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THE OXFORD

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AND THESAURUS

American Edition

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Preface

How to use the *Oxford Desk*

Abbreviations

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Oxford Desk Dictionary and

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Signs and Symbols

Mathematical Notation

Heat Index/Wind Chill

Standard Weights and Me
with Metric Equivalents

Metric Weights and Meas
with Standard Equivale

Arabic and Roman Num

Chemical Elements

Temperature

Time Periods

Wedding Anniversary Gif

Books of the Bible

Presidents of the United

States of the United State

Area Codes

Countries of the World

Easily Confused Words

Terms for Groups of Ani

an·chor /ángkər/ • *n.* 1 heavy metal weight used to moor a ship or a balloon. 2 thing affording stability. 3 source of confidence. 4 (in full **an·chor·man**, **an·chor·per·son**, **an·chor·wom·an**) a person who plays a vital part, as the last member of a relay team, etc. *b* news broadcaster who introduces segments and reads news. • *v.* 1 *tr.* secure by means of an anchor. 2 *tr.* fix firmly. 3 *intr.* cast anchor. 4 *intr.* be moored by means of an anchor.

■ *n.* 1 sheet anchor. 2 mainstay, support, stabilizer; hold, grasp, grip. 4 *b* presenter, announcer, newsreader. • *v.* 1, 2 attach, affix, moor. 3, 4 drop anchor, harbor, moor, be moored, be at anchor.

an·chor·age /ángkəri/ • *n.* 1 place where a ship may be anchored. 2 anchoring or lying at anchor.

an·cho·rite /ángkərít/ • *n.* hermit; religious recluse.

an·cho·vy /ánchóvée/ • *n.* (pl. -vies) small strong-flavored fish of the herring family.

an·cient /áynshánt/ • *adj.* 1 of long age. 2 having lived or existed long. • *n.* very old person. *an·cient·ness* *n.*

■ *adj.* 1 old, archaic, antique, bygone, past, antediluvian, primitive, prehistoric, primeval. 2 old, timeworn, aged, aging, age-old, obsolescent, hoary. • *n.* Mesruselah.

an·cil·lary /ánsələree/ • *adj.* 1 providing essential support to a central service or industry, esp. the medical service. 2 subordinate; subservient. • *n.* (pl. -ies) 1 ancillary worker. 2 accessory.

■ *adj.* see AUXILIARY *adj.* • *n.* see AUXILIARY *n.*

an·cy /ánsə/ • *suffix* forming nouns denoting a quality (constancy) or state (infancy) (cf. -ANCE).

and /ánd, ænd/ • *conj.* 1 connecting words, clauses, or sentences to be taken jointly (*buy and sell*). 2 implying: a progression (*better and better*). *b* causation (*do that and I'll hit you*). *c* great duration (*he cried and cried*). *d* great number (*miles and miles*). *e* addition (*two and two*). 3 *colloq.* to (*try and open it*). *o* and/or either or both of two stated possibilities.

an·dan·te /aandaántay, andántee/ • *Mus.* • *adu.* & *adj.* in a moderately slow tempo. • *n.* andante passage or movement.

an·diron /ándírn/ • *n.* one of a pair of supports for logs in a fireplace.

an·dro·gen /ándrójən/ • *n.* male sex hormone or other substance that reinforces certain male sexual characteristics. *an·dro·genic* /-jéník/ *adj.*

an·droy·nous /ándrójínəs/ • *adj.* 1 hermaphroditic. 2 exhibiting the appearance or attributes of both sexes. 3 *Bot.* with stamens and pistils in the same flower.

■ *an·droy·yng* /ándrójinee/ *n.*

an·droid /ándróyd/ • *n.* robot with a human appearance.

-ane /áyn/ • *suffix* var. of -AN; usu. with distinction of sense (*germane*; *humane*; *urbane*) but sometimes with no corresponding form in -an (mundane).

-ane² /áyn/ • *suffix* Chem. forming names of

saturated hydrocarbons (*methane*, *propane*).

an·ec·dote /áníkdót/ • *n.* short account of an entertaining or interesting incident. *an·ec·do·tal* /-dótəl/ *adj.* **an·ec·do·tal·ist *n.* **an·ec·dot·ic** /-dótík/ *adj.* **an·ec·dot·ist** /-dót-/ *n.***

■ see STORY¹ 1.

an·e·mi·a /anéemeeə/ • *n.* deficiency of red cells or their hemoglobin.

an·e·mic /anéemík/ • *adj.* 1 relating to or suffering from anemia. 2 pale; lacking in vitality.

■ 2 see PALE¹ *adj.* 1, WEAK¹ 1.

an·e·mometer /ánimómítər/ • *n.* instrument for measuring the force of the wind.

an·em·one /anéemənee/ • *n.* plant akin to the buttercup, with flowers of various vivid colors.

-aneous /áyneəs/ • *suffix* forming adjectives (*cutaneous*, *miscellaneous*).

an·e·oid /ánəroyd/ • *adj.* (of a barometer) that measures air pressure by its action on the elastic lid of a box containing a vacuum. • *n.* aneroid barometer.

an·e·s·the·sia /ánis-thézhə/ • *n.* absence of sensation, esp. artificially induced before surgery. *an·es·the·si·ol·ogy* /-zeól·ójee/ *n.*

an·es·thet·ic /ánis-thétík/ • *n.* substance that produces insensibility to pain, etc. • *adj.* producing partial or complete insensibility to pain, etc. *an·es·the·tize* /-néés-thétíz/ *v.*

■ *n.* see PAINKILLER. • *adj.* see NARCOTIC *adj.*

an·es·the·tist /-néés-thétíst/ • *n.* specialist in the administration of anesthetics.

an·eu·rysm /ányərízəm/ • *n.* (also **an·eu·rism**) excessive localized enlargement of an artery. *an·eu·rysm·al* /-rízməl/ *adj.* (also **an·eu·ris·mal**).

an·ew /ánəw, anyəw/ • *adu.* 1 again. 2 in a different way.

an·gel /áynjəl/ • *n.* 1 a attendant or messenger of God. *b* conventional representation of this in human form with wings. 2 a very virtuous person. *b* obliging person (*be an angel and answer the door*). 3 *sl.* financial backer of an enterprise, esp. in the theater. *an·gel·ic* /-jél-/ *adj.* **an·gel·i·cal** *adj.* **an·gel·i·cal·ly** *adu.*

an·ger /ánggər/ • *n.* extreme or passionate displeasure. • *v.tr.* make angry; enrage.

■ *n.* rage, fury, pique; antagonism, irritation, vexation, outrage. • *v.* infuriate, madden, incense; vex, nettles, displease.

an·g·i·na /anjína, ánjəna/ • *n.* 1 attack of intense constricting pain often causing suffocation. 2 (in full **an·g·i·na pectoris** /péktərís/) pain in the chest brought on by exertion, owing to an inadequate blood supply to the heart.

an·gi·o·sperm /ánjeeəspərm/ • *n.* plant propagating by seeds in pods (opp. GYMNO-SPERM). *an·gi·o·sper·mous* *adj.*

an·gle¹ /ánggəl/ • *n.* 1 a space between two meeting lines or surfaces. *b* inclination of two lines or surfaces to each other. 2 corner. 3 a point of view. *b* approach, technique, etc. • *v.* 1 *tr.* & *intr.* move or place obliquely. 2 *tr.* present (information) in a biased way. *an·gled* *adj.*

■ *n.* 1 *b* slant. 2 bend, sharp end, projection. 3 aspect, perspective, bias bend, point. 2 see SLANT. **an·gle**² /ánggəl²/ • *v.intr.* 1 *f* line. 2 (foll. by *for*) see devious means (*angled *f* for, seek, go after*).

Angli·can /ángglíkən/ • *n.* to the Church of England in communion with it. • *Anglican Church*. *an·gli·cism* /ángglízəm/ • *n.* English word or custom. **Angli·cize** /ángglízíz/ • *v.tr.* form or characterize.

Anglo /ángglō/ • *n.* (pl. -British or northern European-Hispanic white people).

Anglo· /ángglō/ • *comb.* (*Anglo-Catholic*). 2 of *Anglo-American*. 3 *Eng* (*Anglo-American agreement*).

Anglo-French /ángglōfrén/ • (or British) and French guage as developed in Norman Conquest.

Anglo·phile /ángglōfil/ • greatly admires English. • *adj.* being or characteristic of Anglophile.

Anglo-Saxon /ángglōsáks/ • English Saxons (as distinct from the Saxons of the European continent). 2 of English descent. 3 Old plain (esp. crude) English. **an·go·ra** /anggáwra/ • *n.* made from the hair of rabbit. 2 long-haired variety of rabbit.

an·gry /ánggree/ • *adj.* (est) 1 feeling or showing wound, sore, etc.) in stormy (an angry sky). • *n.* 1 enraged, furious, irritated, annoyed, vexed, smarting, stinging, ing, dark, savage, glowing, furiously, irately, crossly, savagely.

angst /aangkst/ • *n.* 1 a guilt or remorse.

ang·strom /ángstrəm/ • /áwngstróm/ • *unit* of length. ¶ Symb.: Å.

an·guish /ánggwísh/ • suffering. • *v.tr.* (often cause to suffer physically). • *n.* pain, anguish, torment. • *v.* disturb, torment, torture; (anguish) (WORRY 4).

an·gu·lar /ánggylər/ • *adj.* or sharp corners. *b* (sharp) measured by angle. /-lárítee/ • *n.* **an·gu·lar** *an·i·line* /áníllín, -lín/ • *n.* used in the manufacture of plastics.

an·i·mad·vert /ánimadv

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Swa·hi·li /swaa·hee·lee/ *n.* (*pl.* same) 1 mem-
ber of a Bantu people of Zanzibar and

wash /swosh/ v. intr. (of water, etc.) wash about; make the sound of washing or rising and falling.

sweat /swet/ • *n.*
through the pores of
heat or nervousness.
sweating. 3 *colloq.* drug
(*past and past part.* sw
intr. exude sweat. 2 *intr.*
fering, etc. 3 *intr.* (of
surface moisture. 4 *intr.*
emit (blood, gum, etc
cause to drudge or toil
there is no need to w
colloq. 1 work strenuous
anxious. sweat it out
ficult experience to the