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Paper 8
Date: January 25, 2021

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GLOBUS MEDICAL, INC.,
Petitioner,

v.

MOSKOWITZ FAMILY LLC,
Patent Owner.

IPR2020-01308
Patent 9,889,022 B2

Before NEIL T. POWELL, JAMES A. TARTAL, and JAMES J. MAYBERRY, *Administrative Patent Judges.*

TARTAL, *Administrative Patent Judge*.

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

I. INTRODUCTION

Globus Medical, Inc. ("Petitioner") filed a Petition pursuant to 35 U.S.C. §§ 311–319 requesting an *inter partes* review of claims 47, 49, and 51–70 ("the Challenged Claims") of U.S. Patent No. 9,889,022 B2 (Ex. 1001, "the '022 patent"). Paper 1 ("Pet."). Moskowitz Family LLC ("Patent Owner") filed a Preliminary Response. Paper 7 ("Prelim. Resp.").

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314(b) (2018); 37 C.F.R. § 42.4(a) (2019). An *inter partes* review may not be instituted "unless . . . the information presented in the petition . . . 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). Upon consideration of the Petition, the Preliminary Response, and the evidence of record, we conclude that the information presented does not show a reasonable likelihood that Petitioner would prevail in showing the unpatentability of at least one of the Challenged Claims. Accordingly, we do not authorize an *inter partes* review to be instituted as to the Challenged Claims of the '022 patent on the grounds raised in the Petition. The Petition is denied.

II. BACKGROUND

A. The '022 Patent

The '022 patent, titled "Bi-Directional Fixating Transvertebral Body Screws and Posterior Cervical and Lumbar Interarticulating Joint Calibrated Stapling Devices for Spinal Fusion," issued February 13, 2018, from an application filed on August 15, 2011. Petitioner asserts that the earliest priority date supporting the Challenged Claims is U.S. Application No. 11/842,855, filed August 21, 2007, which issued as U.S. Patent No. 7,942,903. Pet. 7; Ex. 1001 code (60). The '022 patent is directed to a

device that "combines the dual functions of an intervertebral spacer which can be filled with bone fusion material(s), as well as a transvertebral bone fusion screw apparatus." *Id.* at 1:33-40.

Figures 2A–C of the '022 patent are reproduced below.

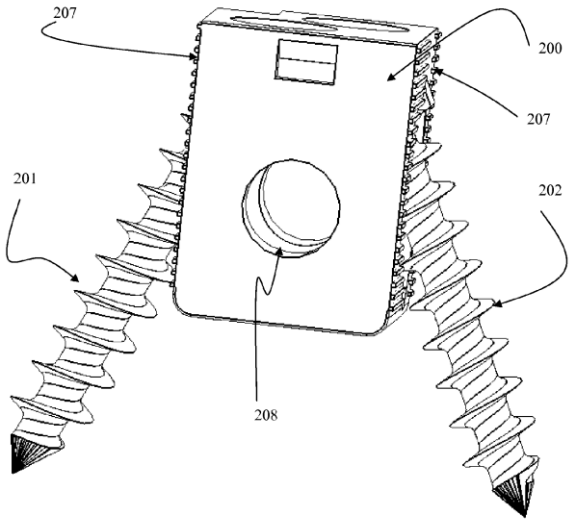


Fig. 2A

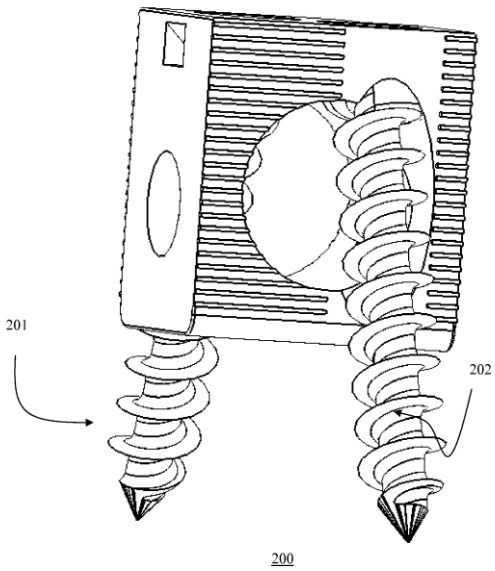


Fig. 2B

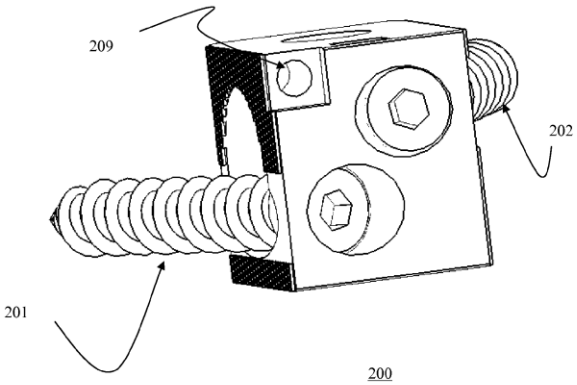


Fig. 2C

Figures 2A–C "illustrate three-dimensional views of the Lumbar intervertebral non-expandable screw box 200," with two bi-directional fixating transvertebral (BDFT) screws 201, 202. Ex. 1001, 1:33–40,

8:20–22; *see also* Pet. 8 (noting that Figures 2A–2C "are particularly relevant and show embodiments of the cage 200 and screws 201, 202"). The '022 patent describes the embodiment shown in Figures 2A–C as follows:

> Screws 201 and 202 perforate and orient in opposing, superior and inferior directions. There are holes 208 and hollow spaces allowing packaging with bone. There are also holes which allow the traversal of screws. The superior and inferior edges include ridges 207 to facilitate integration and fusion with superior and inferior vertebral bodies. The expandable screw box 200 may include a screw insert 209 to attach a horizontal mini-plate (not shown). The self-contained internalized drill guides are at a 25 degree angle. The screw boxes can be designed with the internalized drill guides with different angles and/or different positions within the box.

Ex. 1001, 8:22–33.

B. Related Proceedings

The parties identify the '022 patent as a subject of *Moskowitz Family LLC v. Globus Medical Inc.*, Case No. 2:20-cv-03271 in the U.S. District Court for the Eastern District of Pennsylvania. Pet. 3; Paper 5, 1. Petitioner also identifies additional petitions it has filed seeking *inter partes* review of other patents owned by Patent Owner, none of which, according to Petitioner, are directly related to the '022 patent, but which may disclose similar subject matter and may claim priority in a common provisional patent application. Pet. 4.

C. Real Parties in Interest

Petitioner and Patent Owner are the only identified real parties in interest. Pet. 2; Paper 5, 1.

D. Illustrative Claim

Petitioner challenges claims 47, 49, and 51–70 of the '022 patent. Pet. 1. Claim 47 is independent and claims 49 and 51–70 depend from claim 47. Claim 47 is illustrative of the claimed subject matter and is reproduced below.

> 47. A universal, intervertebral combination internal screw guide and fixation apparatus configured to be inserted into a disc space between a first vertebral body and a second vertebral body and to provide fusion of the first vertebral body to the second vertebral body via biological bone fusion and screw fusion, the apparatus comprising:
>
> an intervertebral cage including:
>
> a top wall, a bottom wall, and two sidewalls defining an open space capable of receiving bone filling for the biological bone fusion;
>
> an internal screw guide having an internal bore with an entry opening and an exit opening, the entry opening of the internal bore formed only in a top surface of the top wall and the exit opening formed at least partially in a bottom surface of the top wall and at least partially in a side surface of the top wall, wherein the internal screw guide further includes a counterbore that is larger than and coaxial with the internal bore and has a counterbore entry opening that is formed only in the top surface of the top wall;
>
> a second internal screw guide having a second internal bore with a second entry opening and a second exit opening, the second entry opening of the second internal bore formed only in the top surface of the top wall and the second exit opening formed at least partially in the bottom surface of the top wall and at least partially in a second side surface of the top wall; and
>
> a circular hole extending through the top wall in a direction substantially normal to the top surface of the top wall, wherein the circular hole is positioned between the internal screw guide and the second internal screw guide at the top surface of the top wall.

Ex. 1001, 17:43–18:9.

E. Asserted Grounds of Unpatentability

Petitioner asserts that the Challenged Claims are unpatentable based on the following grounds:

Claim(s) Challenged	35 U.S.C. §	References/Basis
47, 49, 51–53, 56, 59–63, 65–69	103	Tisserand,[1] Bonutti[2]
54, 55, 64	103	Tisserand, Bonutti, Mathieu[3]
57	103	Tisserand, Bonutti, Brantigan[4]
58, 70	103	Tisserand, Bonutti, Waugh[5]

Petitioner relies on the supporting Declaration of Jorge A. Ochoa, Ph.D., P.E., dated July 20, 2020. Ex. 1003.

Petitioner wrongly asserts that "Tisserand was not considered by the Examiner during the prosecution of the application leading to the '022 patent." Pet. 15. As noted by Patent Owner, the prosecution history of the '022 patent filed by Petitioner in this proceeding as Exhibit 1002 identifies Tisserand on an Information Disclosure Statement and includes a copy of Tisserand in both French and English. Prelim. Resp. 6 (citing Ex. 1002, 145, 164–185). To the extent Petitioner intends to imply a reference in the prosecution history was not "considered by the Examiner" unless relied upon in a rejection, we are not persuaded. *See* Ex. 1002, 144–

[1] French Patent Pub. No. 2,727,003 (published May 24, 1996) (Ex. 1029, "Tisserand").
[2] U.S. Patent No. 7,001,385 B2 (issued Feb. 21, 2006) (Ex. 1030, "Bonutti").
[3] U.S. Patent Application Publication No. 2005/0177236 A1 (published Aug. 11, 2005) (Ex. 1005, "Mathieu").
[4] U.S. Patent No. 5,192,327 (issued Mar. 9, 1993) (Ex. 1031, "Brantigan").
[5] U.S. Patent No. 8,425,607 B2 (issued Apr. 23, 2003) (Ex. 1032, "Waugh").

145 (stating that the examiner considered all references on the information disclosure statement, unless lined through).

Additionally, Petitioner concedes that Waugh, or more precisely, the application that issued as Waugh, was considered and relied on to reject pending claims during the examination of the '022 patent. Pet. 9–10, 19. Petitioner, however, also asserts that "Waugh was never applied in a rejection to the Challenged Claims." *Id.* at 19 (emphasis omitted). We agree with Patent Owner that Petitioner's assertion fails to properly reflect that "the Examiner substantively applied the Waugh reference in a rejection of the then-pending claims, and ultimately determined that independent claim 47 was patentable over Waugh and the other references." Prelim. Resp. 17 (citing Ex. 1002, 86–90, 114, 135–144).

Petitioner also recognizes that Mathieu is cited on the face of the '022 patent, but contends that it "was not referenced or applied by the Examiner to reject any claim" during prosecution of the '022 patent. Pet. 17–18. As above, to the extent Petitioner intends to imply Mathieu was not considered by the Examiner unless relied upon in a rejection, we are not persuaded.

Neither party suggests that Bonutti was considered during examination; however, Patent Owner asserts that "[t]he Examiner also knew of devices structurally similar to Bonutti, and even applied them in rejections of the claims of the application that led to the '022 patent." Prelim. Resp. 15–16. Patent Owner further argues that we should exercise our discretion to deny institution because Tisserand, Mathieu, and Waugh were considered during examination and Bonutti is cumulative to other art considered during examination. Prelim. Resp. 14–18. Patent Owner,

however, does not address Brantigan. Because we deny the Petition on the merits, we need not reach the issue of discretionary denial.

III. ANALYSIS

A. Legal Standards

A patent claim is unpatentable under 35 U.S.C. § 103[6] if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). In *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966), the Supreme Court set out a framework for assessing obviousness under § 103 that requires consideration of four factors: (1) the "level of ordinary skill in the pertinent art," (2) the "scope and content of the prior art," (3) the "differences between the prior art and the claims at issue," and (4) "secondary considerations" of nonobviousness such as "commercial success, long felt but unsolved needs, failure of others, etc." *Id.* at 17–18; *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 407 (2007). Neither party presents evidence directed to secondary considerations. *See* Pet. 53.

B. Level of Ordinary Skill in the Art

In determining the level of ordinary skill in the art, various factors may be considered, including the "type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active

[6] The relevant sections of the Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112–29, took effect on March 16, 2013. Because the application that issued as the '022 patent states that it was filed before March 16, 2013, we apply the pre-AIA versions of these statutes. *See* 35 U.S.C. § 100(i).

workers in the field." *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted).

Petitioner contends that a person of ordinary skill in the art at the time of the invention would have had "a Bachelor's or equivalent degree in Mechanical Engineering or a related discipline (e.g. biomechanics or biomedical engineering), and at least five years of experience." Pet. 13 (citing Ex. 1003 ¶¶ 25–29). Petitioner adds that "[t]he experience would consist of a) designing, developing, evaluating and/or using prosthetic devices, b) anatomy, physiology and biology of soft and calcified tissues including bone healing and fusion, and c) biomechanical and functional loading of orthopedic implants." *Id.* Petitioner further contends that, alternatively, a person of ordinary skill in the art could have had "an advanced degree, in the technical disciplines provided above, or a Doctor of Medicine, and at least two years of experience in the subject areas provided above." *Id.* In its Preliminary Response, Patent Owner does not contest Petitioner's asserted level of ordinary skill in the art.

We find that the '022 patent and the cited prior art references reflect the appropriate level of skill at the time of the claimed invention and that the level of appropriate skill reflected in these references and the '022 patent is consistent with the definition of a person of ordinary skill in the art proposed by Petitioner. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). Accordingly, for purposes of this decision on institution, we adopt Petitioner's asserted level of ordinary skill in the art.

C. Claim Construction

"In an *inter partes* review proceeding, a claim of a patent . . . shall be construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b)." 37 C.F.R.

§ 42.100(b) (2020). That standard "includ[es] construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." *Id.*; *see also Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). "When a patentee explicitly defines a claim term in the patent specification, the patentee's definition controls." *Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1380 (Fed. Cir. 2009).

Petitioner provides a table of claim terms that it argues "should be construed in accordance with the intrinsic record," along with proposed constructions, which we reproduce below.

Claim Term	**Petitioner's Construction**
"a disc space between a first intervertebral body and a second intervertebral body"	"the disc space between two adjacent vertebrae"
"universal, intervertebral combination internal screw guide and fixation apparatus"	"an intervertebral bone fusion spacer designed to be inserted between two adjacent vertebrae in any region of the spine, i.e., cervical, thoracic, or lumbar, using any approach, e.g., posterior, anterior, or lateral"
"screw fusion"	"fusion between two adjacent intervertebral bodies based on the use of screws having a predetermined, fixed trajectory"
"counterbore"	"a flat-bottomed enlargement of the mouth of a cylindrical bore"

Pet. 11–13.

Patent Owner argues that no claim term requires an express construction at this stage of the proceeding. Prelim. Resp. 7. Patent Owner also argues that Petitioner improperly proposes express definitions without identifying any intrinsic or extrinsic evidence in support. *Id.* at 8. Indeed, neither Petitioner nor Dr. Ochoa identifies any supporting intrinsic or

extrinsic evidence for the proposed construction. *See id.*; *see also* Ex. 1003 ¶ 11 (stating that "I have been advised by Counsel that . . . [Petitioner] has proposed the . . . construction" presented in the table above); Consolidated Trial Practice Guide 44 ("If a petitioner believes that a claim term requires an express construction, the petitioner must include a statement identifying a proposed construction of the particular term *and where the intrinsic and/or extrinsic evidence supports that meaning*." (emphasis added)).

Patent Owner also argues that Petitioner was required and failed to adequately address the means-plus-function limitations of claim 49 (reciting "means to facilitate integration and fusion") and claim 57 (reciting "means for receiving placement"). Prelim. Resp. 10. Indeed our rules require that the petition "*must* identify the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function." 37 C.F.R. § 42.104(b)(3) (emphasis added).

We find for the reasons provided below that Petitioner fails to show sufficiently how the asserted art teaches each claim limitation, including limitations as construed by Petitioner. We also agree with Patent Owner that Petitioner's failure to identify from the specification of the '022 patent "the structure, material, or acts corresponding to each claimed function" for each means-plus function limitation in a challenged claim supports denial of the Petition. *See* Pet. 11–13, 29, 46–47. We further find that no terms require our express construction. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("[W]e need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy.'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Scope and Content of the Prior Art

Petitioner relies on Tisserand and Bonutti to show that claim 47, the only challenged independent claim, as well as dependent claims 49, 51–53, 56, 59–63, 65–69, would have been obvious. Petitioner additionally relies on Mathieu, Brantigan, and Waugh with regard to features of dependent claims 54, 55, 57, 58, 64, and 70. We focus our discussion on Tisserand and Bonutti, which are briefly summarized in relevant part below, because our consideration of Petitioner's contentions with regard to independent claim 47 is dispositive as to all Challenged Claims.

1. Summary of Tisserand

Tisserand, titled "Lumbar-Sacral Vertebrae Anterior Stabilizer," teaches "a device for anterior stabilization of the lumbar-sacral spine." Ex. 1029, code (54), 1:22–27. Patent Owner argues that Tisserand "is not properly authenticated." Prelim. Resp. 11–14. We are not persuaded by Patent Owner that the translation certification for Tisserand provided by Petitioner fails to comply with 37 C.F.R. §§ 1.68, 42.2 and "is not signed by the linguist with personal knowledge of the accuracy of the translation." *See id.* Moreover, the Board routinely allows a petitioner to correct such a declaration when necessary. *See, e.g., Ascend Performance Materials Operations LLC v. Samsung SDI Co., Ltd.*, IPR2020-00349, Paper 13 at 11 (PTAB. July 16, 2020) (requiring the petitioner in that proceeding to "refile any English-language translations of references with new declarations that satisfy the requirements of 37 C.F.R. §§ 42.63(b) and 42.2"). We note Patent Owner offers no argument or evidence that the translation is inaccurate, such that we should afford the translation little weight. To the contrary, Patent Owner acknowledges that a translated copy of Tisserand appears in the prosecution history of the '022 patent, drawing into serious

doubt the credibility and veracity of Patent Owner in asserting that "[t]hese deficiencies are substantive, not trivial" and "infects the entire Petition." Prelim. Resp. 14–15 (further asserting that "the Examiner previously considered Tisserand—including a complete English translation—during original prosecution").

Tisserand Figures 1–3 are reproduced below.

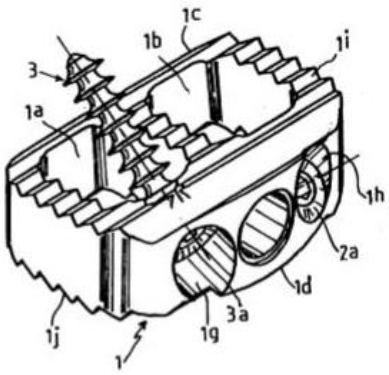


FIG.1

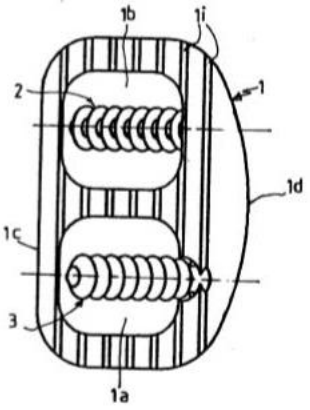
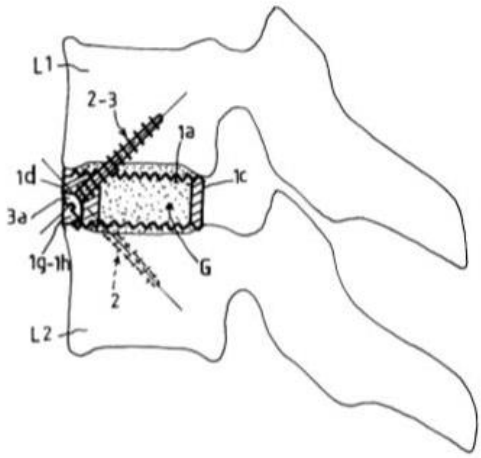


FIG. 2

FIG. 3



Figures 1 and 2 illustrate a perspective and plan view of element 1, a device for anterior stabilization of the lumbar-sacral spine, and Figure 3 "is a cross-section showing the fixing of the device between two plates of the lumbar vertebrae [L1, L2]." Ex. 1029, 2:10–18. As shown in Figure 3, element 1 "is arranged so as to receive cancellous bone grafts (G)" through

openings (1a) and (1b). *Id.* at 2:22–24, 2:31–32. Element 1 is hollow, with "a rear edge 1C that is concave at the back and "a rounded front edge (1d)," that is greater in height than the rear face. *Id.* at 2:26–29. Oriented holes (1g) and (1h) in element 1, starting from front face (1d) and "angularly offset by approximately 90°," "allow for the passage and integration of fixing means [or "screws"] (2) and (3)." *Id.* at 2:35–3:4. "The heads (2a) and (3a) of the screws (2) and (3) are embedded in the recess so as to be supported in the base thereof, and do not extend beyond the front face (1d)." *Id.* at 3:11–12. Tisserand further explains the procedure for implementing the device and states the "device is particularly well suited for stabilizing a movable segment of the lumbar or lumbosacral spine." *Id.* at 3:35–4:17. We note that Petitioner purports to describe Tisserand in the Petition, but the features Petitioner identifies (e.g., "bone screws 104," "spacer 102") appear nowhere in Tisserand and, instead, seem to correspond to features in Waugh, also described elsewhere in the Petition. Pet. 15–16, 20–21; *see also* Ex. 1003 ¶ 46 (Dr. Ochoa summarizing the disclosure of Tisserand).

2. Summary of Bonutti

Bonutti, titled "Joint Spacer with Compartment for Orthobiologic Material," teaches a method and apparatus "to change a spatial relationship between bones which are interconnected at a joint in a patient's body." Ex. 1030, 1:62–64. Bonutti describes a wedge used to expand at least a portion of the joint, and explains that the wedge may be connected to only one of the bones "[i]f the joint is to be flexed after being expanded," or may be "fixedly connected with the bones interconnected at the joint" if the joint is to be immobilized. *Id.* at 1:64–2:12.

Bonutti Figure 10 is reproduced below.

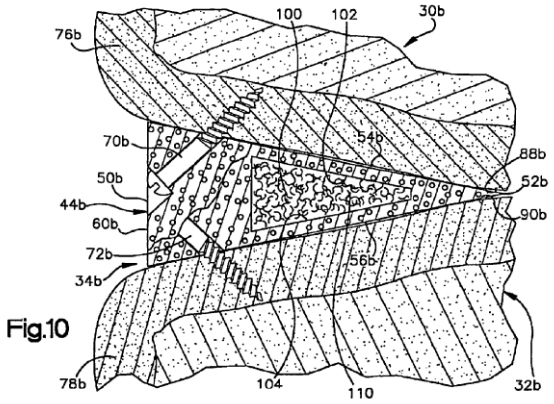


Figure 10 is a "fragmentary schematic section view" illustrating "an embodiment of the wedge member which is porous and has a chamber which holds bone growth promoting material." *Id.* at 3:18–21. As shown in Figure 10, "wedge member 44b is inserted into a joint 34b between bones 30b and 32b to expand the joint." *Id.* at 10:65–67. Fasteners (screws) 70b and 72b prevent movement between wedge member 44b and bones 30b and 32b and extend through passages in wedge member 44b. *Id.* at 11:2–4; *see also id.*, 7:52–62, Fig. 8 (describing a similar solid wedge member 44 with passages 64 and 66 through which screws 70 and 72 extend into bones 30 and 32); *see also* Ex. 1003 ¶ 476 (Dr. Ochoa summarizing the disclosure of Bonutti).

E. Alleged Obviousness over Tisserand and Bonutti

Petitioner contends that claims 47, 49, 51–53, 56, 59–63, and 65–69 of the '022 patent would have been obvious over Tisserand and Bonutti. Pet. 5. Petitioner's contentions are supported by Dr. Ochoa. Ex. 1003 ¶¶ 51–76. Patent Owner disputes these contentions, primarily with regard to whether the asserted art teaches claimed features, as construed by Petitioner, and whether Petitioner shows a sufficient rationale for the asserted combination. Prelim. Resp. 18–38.

1. Independent Claim 47

Petitioner contends that the combination of Tisserand and Bonutti teaches the subject matter of claim 47, which we analyze below, along with Patent Owner's arguments in opposition.

> *A universal, intervertebral combination internal screw guide and fixation apparatus configured to be inserted into a disc space between a first vertebral body and a second vertebral body and to provide fusion of the first vertebral body to the second vertebral body via biological bone fusion and screw fusion, the apparatus comprising:*

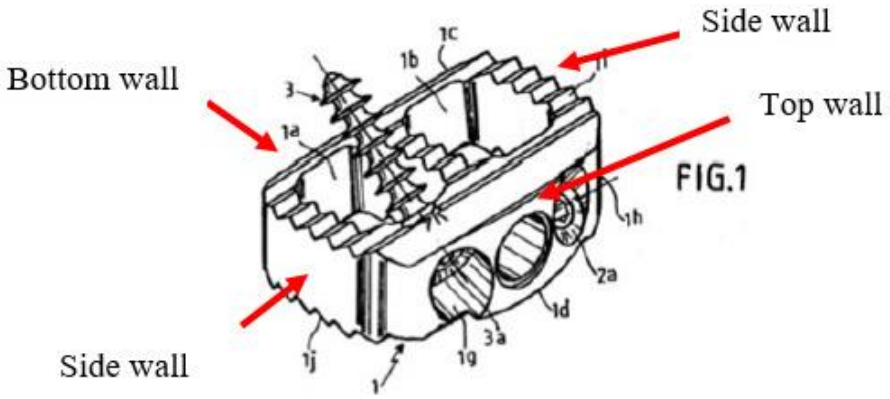
Petitioner does not directly address whether it contends the preamble to claim 47 is limiting. Pet. 21–22. Petitioner, however, expressly relies on Tisserand's device 1, which Petitioner calls an "intervertebral cage 1," as corresponding to the recited "internal screw guide and fixation apparatus configured to be inserted into a disc space." *Id.* Petitioner contends that preformed holes 1g, 1h of Tisserand, through which bone screws 2, 3 extend, would act as "screw guides." *Id.* at 21 (citing Ex. 1003 ¶¶ 51, 54).

As discussed above, Petitioner contends in the Petition that "universal, intervertebral combination internal screw guide and fixation apparatus" means "an intervertebral bone fusion spacer designed to be inserted between two adjacent vertebrae in any region of the spine, i.e., cervical, thoracic, or lumbar, using any approach, e.g., posterior, anterior, or lateral." *Id.* at 12. Neither Petitioner nor Dr. Ochoa provide any explanation of how device 1 of Tisserand is "designed to be inserted between two adjacent vertebrae in any region of the spine . . . using any approach," as Petitioner argues is required by the claim language "universal . . . apparatus." Accordingly, we agree with Patent Owner that "the Petition fails to sufficiently explain '[h]ow the challenged claim is to be construed' and '[h]ow *the construed claim* is unpatentable.'" Prelim. Resp. 18 (quoting 37 C.F.R. §§ 42.104(b)(3)–(b)(4)

(emphasis added)); *see also id.* at 20 (persuasively arguing that "the Petition does not even explicitly allege that Tisserand's device is 'designed to be inserted between two adjacent vertebrae in any region of the spine,'" and that "Tisserand likewise never mentions such features"). For the foregoing reasons we find that Petitioner fails to show sufficiently how the asserted art teaches or suggests "[a] universal, intervertebral combination internal screw guide and fixation apparatus," as construed by Petitioner.

> *an intervertebral cage including:*
>
> *a top wall, a bottom wall, and two sidewalls defining an open space capable of receiving bone filling for the biological bone fusion;*
>
> *an internal screw guide having an internal bore with an entry opening and an exit opening, the entry opening of the internal bore formed only in a top surface of the top wall and the exit opening formed at least partially in a bottom surface of the top wall and at least partially in a side surface of the top wall, wherein the internal screw guide further includes a counterbore that is larger than and coaxial with the internal bore and has a counterbore entry opening that is formed only in the top surface of the top wall*;

Petitioner contends that Tisserand device 1 is an intervertebral cage with a top wall, bottom wall, and two sidewalls, as shown in a version of Tisserand Figure 1 annotated by Petitioner reproduced below.



Pet. 23. The annotated Figure 1 shows device 1 of Tisserand with top, bottom, and side walls labeled and identified by Petitioner. *Id.* In particular, Petitioner identifies elements 1i and 1j of Tisserand as the recited "two sidewalls." *Id.*

However, claim 47 also requires that "the entry opening of the internal bore formed only in a top surface of the top wall and the exit opening formed at least partially in a bottom surface of the top wall and at least partially in a *side surface of the top wall*." Ex. 1001, 17:43–18:9 (emphasis added). According to Petitioner, "the exit openings are formed at least partially in a bottom surface of the top wall and at least partially in side surfaces 1i, 1j of the top wall." Pet. 24 (citing Ex. 1029, 3:14–15, Figs. 1, 2). Thus, Petitioner improperly contends that elements 1i and 1j of Tisserand are both the recited "two sidewalls" and the separately recited "side surface of the top wall."

Moreover, Tisserand, as cited by Petitioner, merely states that "[t]he upper (1i) and lower (1j) faces are notched in order to facilitate primary stability," and that "[t]he element (1) is formed of titanium or a carbon-fiber reinforced polymer." Ex. 1029, 3:14–15. Petitioner fails to show how Tisserand teaches or suggests that upper (1i) and lower (1j) faces are both a sidewall and a side surface of the top wall of device 1.

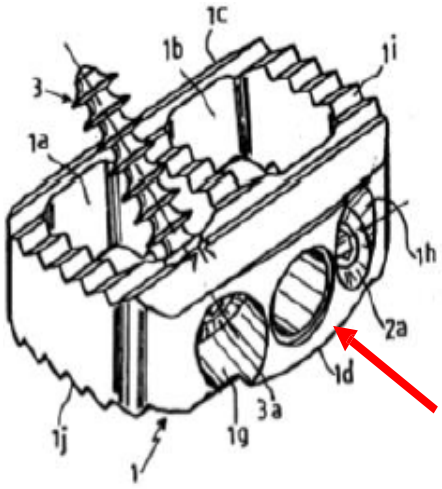
Nor is it apparent from either Figure 1 or Figure 2 of Tisserand how Petitioner asserts the internal bores are formed "at least partially in a side surface of the top wall." Other than conclusory assertions, neither Petitioner nor Dr. Ochoa provides a persuasive argument or directs us to any persuasive evidence. Pet. 24; Ex. 1003 ¶ 54 (Dr. Ochoa citing the same portion of Tisserand as the Petition and providing no additional explanation). Additionally, we note that Petitioner does not rely on any teaching from

Bonutti in this regard. *See* Pet. 25–27 (arguing only that "it would have been an obvious matter of design choice to a [person of ordinary skill in the art] to include the counterbore formed only in the top surface as taught in Bonutti in place of the recesses or bores in the top surface as disclosed in Tisserand to recess the heads of the fasteners in the implant"). For the foregoing reasons we find that Petitioner fails to show sufficiently how the asserted art teaches or suggests an internal bore with an "exit opening formed . . . at least partially in a side surface of the top wall."

> *a second internal screw guide having a second internal bore with a second entry opening and a second exit opening, the second entry opening of the second internal bore formed only in the top surface of the top wall and the second exit opening formed at least partially in the bottom surface of the top wall and at least partially in a second side surface of the top wall; and*
>
> *a circular hole extending through the top wall in a direction substantially normal to the top surface of the top wall, wherein the circular hole is positioned between the internal screw guide and the second internal screw guide at the top surface of the top wall*.

Petitioner contends that Tisserand teaches "a second internal screw guide having identical features to the first internal screw guide." Pet. 27. Petitioner does not resolve the deficiencies discussed above in the additional contentions it provides as to the additional limitations directed to "a second internal screw." *See* Pet. 27–28.

As to the recited "circular hole," Petitioner relies on an annotated version of Figure 1 of Tisserand, reproduced below.



Pet. 28. The annotated Figure 1 shows device 1 of Tisserand with an arrow pointed at a circular feature. Petitioner directs us to no explanation from Tisserand addressing the feature and Dr. Ochoa only provides a conclusory assertion that Tisserand "discloses a circular hole extending through the top wall." *See* Ex. 1003 ¶¶ 33, 46, 60. In fact, Dr. Ochoa suggests that the circular feature is "consistent with a feature for engaging an insertion tool," which does not explain why it would extend "through the top wall," as required by claim 47.

Patent Owner argues that Figure 1 of Tisserand does not show whether the feature extends through the top wall, particularly in light of the unlabeled central wall shown in Figure 1 of Tisserand. Prelim. Resp. 36–38. We agree with Patent Owner that Figure 1 is unclear and that an unsupported, unexplained, conclusory assertion by Petitioner is insufficient to show how or why Tisserand teaches or suggests the recited "circular hole extending through the top wall."

2. Dependent Claims 49, 51–53, 56, 59–63, and 65–69

Petitioner contends that claims 49, 51–53, 56, 59–63, and 65–69, which depend from claim 47, would have been obvious over Tisserand and Bonutti. Pet. 29–41. Petitioner's contentions with regard to dependent claims 49, 51–53, 56, 59–63, and 65–69, do not resolve the deficiencies with Petitioner's contentions with respect to claim 47. *See In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) ("[D]ependent claims are nonobvious if the independent claims from which they depend are nonobvious.").

3. Showing of a Reasonable Likelihood

We have considered the evidence and argument presented by the parties and determine, for the reasons provided above, that the Petition fails to provide the requisite showing that the combination of Tisserand and Bonutti teaches or suggests the subject matter of claims 47, 49, 51–53, 56, 59–63, and 65–69. As a result, we further determine that the Petition fails to show a reasonable likelihood that Petitioner would prevail in showing that claims 47, 49, 51–53, 56, 59–63, and 65–69 would have been obvious over Tisserand and Bonutti.

F. Obviousness over Tisserand, Bonutti, and Mathieu

Petitioner asserts dependent claims 54, 55, and 64 would have been obvious over Tisserand, Bonutti, and Mathieu. Pet. 41–46. We have reviewed Petitioner's contentions with respect to dependent claims 54, 55, and 64. We discern nothing in the Petition directed to these claims that remedies the deficiencies we identify above with respect to independent claim 47, from which claims 54, 55, and 64 depend. Accordingly, we determine that the information in the Petition does not demonstrate a reasonable likelihood that dependent claims 54, 55, and 64 would have been obvious over the combination of Tisserand, Bonutti, and Mathieu.

G. Obviousness over Tisserand, Bonutti, and Brantigan

Petitioner asserts dependent claim 57 would have been obvious over Tisserand, Bonutti, and Brantigan. Pet. 46–47. We have reviewed Petitioner's contentions with respect to dependent claim 57. We discern nothing in the Petition directed to this claim that remedies the deficiencies we identify above with respect to independent claim 47, from which claim 57 depends. Accordingly, we determine that the information in the Petition does not demonstrate a reasonable likelihood that dependent claim 57 would have been obvious over the combination of Tisserand, Bonutti, and Brantigan.

H. Obviousness over Tisserand, Bonutti, and Waugh

Petitioner asserts dependent claims 58 and 70 would have been obvious over Tisserand, Bonutti, and Waugh. Pet. 47–52. We have reviewed Petitioner's contentions with respect to dependent claims 58 and 70. We discern nothing in the Petition directed to these claims that remedies the deficiencies we identify above with respect to independent claim 47, from which claims 58 and 70 depend. Accordingly, we determine that the information in the Petition does not demonstrate a reasonable likelihood that dependent claims 58 and 70 would have been obvious over the combination of Tisserand, Bonutti, and Waugh.

IV. CONCLUSION

After considering all the evidence and arguments before us, we determine that the information in the Petition fails to shows a reasonable likelihood that Petitioner would prevail with respect to at least one of the claims challenged in the Petition. Accordingly, we do not institute an *inter partes* review.

IV. ORDER

Upon consideration of the record before us, it is:

ORDERED that, pursuant to 35 U.S.C. § 314(a), the Petition is *denied*.

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