

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ORTHOCISION, INC.,
Petitioner,

v.

PTL OPCO, LLC
Patent Owner.

Patent No. 11,020,129
Title: DRILL-LESS METHOD OF FUSING A SACROILIAC JOINT

Inter Partes Review No. IPR2023-00625

PATENT OWNER'S SUR-REPLY

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PATENT OWNER'S UPDATED EXHIBIT LIST

Exhibit	Description
2006	Transcript of Mr. Troy Drewry's Second Deposition
2007	USPTO Action in U.S. Patent Application No. 18/514,814

I. INTRODUCTION

PTL Opco LLC (“Patent Owner”) hereby respectfully submits this Sur-Reply in response to the IPR Petition (Paper 3, the “Petition”) challenging validity of claims 1, 2, 9 and 10 of the U.S. Patent No. 11,020,129 (the “‘129 Patent”), the Board’s decision granting institution thereof (Paper 10, “Institution Decision”), and Petitioner Reply (Paper 19).

II. SHARMA DOES NOT TEACH OR SUGGEST THE STRUCTURE DISCLOSED IN THE ‘129 PATENT THAT CORRESPONDS TO THE “RELEASING MEANS” FUNCTION

A. The Board’s preliminary construction of the “releasing means” failed to limit the corresponding structure that that which is disclosed in the ‘129 Patent

The central issue before the Board is whether Sharma teaches the means-plus-function limitation the “releasing means” recited in claim 1 of the ‘129 Patent. At the institution stage, the Board construed this limitation as requiring the following structures: “a mating threaded connection, a quick disconnect attachment, a depressible tab, a latch, a clasp, a clip, or a clamp, releasably connecting a hammer sleeve **to a base**.” Inst. Dec. 24 (emphasis added). In PO Response and Petitioner’s Reply, both parties agree that the “base” structure must be included in the construction of the “releasing means” limitation. PO Resp. 16; Pet. Reply 5.

In the Institution Decision, the Board stated that “[it] find[s] **no reason** the structure for the ‘releasing means’ should exclude Sharma’s arrangement of hammer sleeve, locking mechanism, and shaft or that the structure where Sharma’s hammer

sleeve *locks to its shaft should not be considered a base*, per [the Board’s] interpretation of the claim.” Inst. Dec. 55 (emphasis added). Here is that reason: “[the Federal Circuit] case law is clear that a means-plus-function claim limitation is *limited to the structures disclosed in the specification* and equivalents.” *Mettler-Toledo, Inc. v. B-Tek Scales, LLC*, 671 F.3d 1291, 1296 (Fed. Cir. 2012) (emphasis added). “The literal scope of a properly construed means-plus-function limitation *does not extend to all means* for performing a certain function[;] [r]ather, the scope of such claim language is *sharply limited to the structure disclosed in the specification* and its equivalents.” *J & M Corp. v. Harley–Davidson, Inc.*, 269 F.3d 1360, 1367 (Fed. Cir. 2001) (emphasis added); *see also Nomos Corp. v. Brainlab USA, Inc.*, 357 F.3d 1364, 1368 (Fed. Cir. 2004).

The ‘129 Patent does not disclose the structural arrangement of Sharma’s locking mechanism in which “*the proximal end of the central shaft clicks into the proximal impaction end [of the hammer sleeve] locking it into place.*” Ex. 1009 at 20:6-9. The ‘129 Patent also does not disclose that the “*base*” to which the hammer sleeve releasably connects is “[t]he proximal end (29) of the central shaft (21)” terminating with a “bullet shaped tip (22) and a neck region (23).” *Id.* at 13:6-7. Accordingly, any construction of the “releasing means” that expands the scope of this limitation so broadly as to encompass these structural arrangements contravenes the Federal Circuit case law by failing to “*sharply limit*” the corresponding structure

to that which is disclosed in the ‘129 Patent’s specification. Thus, as evidenced by the Board’s findings in the Institution Decision, its preliminary construction of the “releasing means” lacks sufficient structural detail to properly limit the scope of this limitation to the structures actually disclosed in the ‘129 Patent.

The following analysis explains why, in its Final Written Decision, the Board should adopt the construction presented in the PO Response.

B. Petitioner’s arguments in support of the Board’s preliminary construction of the “releasing means” are unavailing

1. All disclosed structures that actually perform the claimed function are “necessary” and should not be excluded from the construction

Petitioner argues that the construction of the “releasing means” should exclude the “location-specific language” and “should not be limited to the structure or location of base 51 depicted in the Figures of the ‘129 Patent.” Pet. Resp. 5-7. These statements directly contradict the Federal Circuit case law, which unequivocally mandates the opposite: “the scope of such claim language is sharply limited to the structure disclosed in the specification” and it is improper “to disassociate the disclosed structure from the location of the disclosed structure.” *J & M Corp.*, 269 F.3d at 1367; *Grace Instrument Indus., LLC v. Chandler Instruments Co., LLC*, 57 F.4th 1001, 1015 (Fed. Cir. 2023).

Petitioner contends that “the *Micro Chemical* case [] directly supports the Board’s [preliminary] construction of releasing means.” Pet. Reply 8 (citing *Micro*

Chemical, Inc. v. Great Plains Chemical Co. 194 F.3d 1250, 1258 (Fed. Cir. 1999)). This false proposition fundamentally mischaracterizes that case. In *Micro Chemical*, the Federal Circuit stated that it is improper to incorporate “structure from the written description beyond that *necessary to perform* the claimed function.” 194 F.3d at 1258 (citing *Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1302 (Fed. Cir. 1999)) (emphasis added). The phrase “necessary to perform” means that “[s]tructural features that *do not actually perform* the recited function” should not be included in the construction. *Asyst Techs., Inc. v. Empak, Inc.*, 268 F.3d 1364, 1370 (Fed. Cir. 2001) (citing *Micro Chemical*, 194 F.3d at 1257–58 and *Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus.*, 145 F.3d 1303 (Fed. Cir. 1998)); see also *Rodime*, 174 F.3d at 1304 cited in *Micro Chemical*, 194 F.3d at 1258 (holding that the district court erred by construing the limitation a “positioning means” to include the “structure for performing thermal compensation” which was not necessary for the positioning function).

In *Micro Chemical*, the Federal Circuit reversed the district court’s construction not because it recited too much structural detail of the preferred embodiment—but rather because that construction failed to include ***additional***

disclosed structural features corresponding to the alternative embodiments.¹ *Micro Chemical*, 194 F.3d at 1259 (holding that “weighing means” must be construed to embrace both “a weight scale (i.e., a load cell) from which the weigh hopper or storage bin is suspended” and “a weight scale means supporting the weigh hopper or storage means, or an equivalent structure”) (emphasis added). In doing so, the Federal Circuit underscored that “[a] means-plus-function claim encompasses ***all structure in the specification*** corresponding to that element and equivalent structures” and should be construed to “embrace each of [the disclosed] embodiments.” *Id.* at 1258 (citing *Serrano v. Telular Corp.*, 111 F.3d 1578, 1583 (Fed. Cir. 1997)) (emphasis added).

Ultimately, the *Micro Chemical* opinion set forth a legal framework for construction of means-plus-function limitations in circumstances where the specification discloses multiple embodiments with mutually exclusive structures. This legal framework permits concurrent alternative constructions that embrace each embodiment, rather than requiring a single broad construction that would ***exclude*** structural elements that are present only in some—but not all—embodiments. *Ishida*

¹ In its Reply, Petitioner conflates the portion of the *Micro Chemical* opinion pertaining to the claimed function, which the district court improperly narrowed to “sequential and cumulative weighing,” with the portion of that opinion pertaining to the corresponding structure. Pet. Reply 8.

Co. v. Taylor, 221 F.3d 1310, 1316 (Fed. Cir. 2000) (explaining that where “[a] single claim construction that would encompass all the illustrated embodiments of the invention would have had to be so broad as to describe systems both with and without . . . a basic structural element,” “[n]either *Serrano* nor *Micro Chemical* requires the district court to formulate a single claim interpretation to cover multiple embodiments”).

In the present case, the construction of the “releasing means” set forth in PO Response recites only the disclosed structures that actually perform the releasing function and does not exclude any disclosed embodiments. Therefore, the *Micro Chemical* opinion not only fails to support—but actually directly refutes—Petitioner’s argument that some of these structural aspects should be excluded from the construction of the “releasing means.”

2. It is improper to disassociate the disclosed structures from their disclosed locations

Petitioner argues that Patent Owner’s construction of the “releasing means” is improper because it includes “location-specific language” for the recited connecting structures. Pet. Reply 5. But this is exactly what the governing case law requires. In *Grace Instrument*, the Federal Circuit held that it is improper “to disassociate the disclosed structure from the location of the disclosed structure.” *Grace Instrument Indus., LLC v. Chandler Instruments Co., LLC*, 57 F.4th 1001, 1015 (Fed. Cir. 2023).

Petitioner’s argument that *Grace Instrument* is limited to the circumstances where “the language of the claim itself call[s] for a location” fundamentally misinterprets that decision. Pet. Reply 9-10. In *Grace Instrument*, the claim at issue recited the “means for driving said rotor to rotate located in at least *one bottom section*.” *Grace Instrument*, 57 F.4th at 1006. In the underlying district court litigation, the parties presented the court with competing constructions for this means-plus-function limitation, which were presented in the table below:

Grace’s proposed construction	Chandler’s proposed construction
<u>Function:</u> driving a rotor to rotate. <u>Means:</u> motor or gearbox and equivalent structures.	<u>Function:</u> driving said rotor to rotate, where the means for driving is <u>located in at least one bottom section</u>. <u>Means:</u> (i) magnetic coupling (magnet mount, gear box or motor, driving magnet, coupling magnet), or (ii) direct drive <u>at bottom of cell body</u>, and known equivalents.

Id. at 1007 (annotated in red). The district court wholly adopted—and the Federal Circuit affirmed—the more detailed claim construction, in which the phrase “located in at least one bottom section” pertains to the *claimed function*, while the phrase “at the bottom of cell body” pertains to the *corresponding structure*. *Id.* These locations refer to two separate parts of the disclosed viscometer apparatus: the “bottom section” refers to the bottom section of the overall viscometer (80), while the “cell bottom” (47) refers to the location specifically within the “cell body” (62), which is a constituent part of the viscometer. See U.S. Pat. No. 7,412,877 at 2:40-3:50, FIG.

1. Figure 1 of the patent at issue in *Grace Instrument* is reproduced and annotated below showing these separate locations:

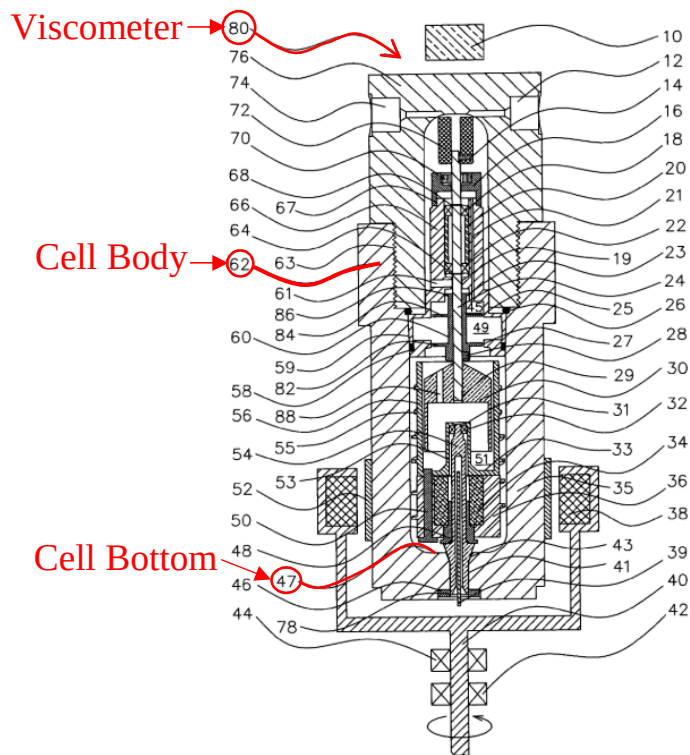


Figure 1

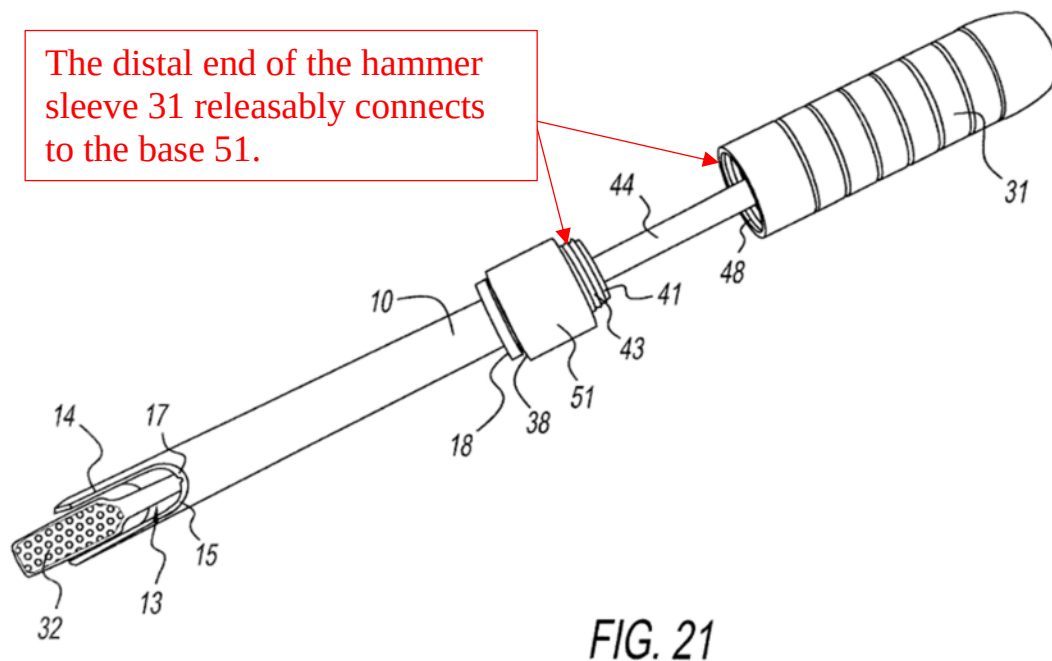
Accordingly, a proper reading of the *Grace Instrument* makes it clear that the Federal Circuit’s holding that the “bottom of cell body” location must be included in the construction of the “means for driving” limitation is not predicated on that location being recited in the claim. Therefore, Petitioner’s argument that *Grace Instrument* does not apply to the present case because “a particular location for a base” is not recited in claim 1 has no merit.

3. Petitioner’s argument that the term “base” should “cover a broad set of structures” directly contradicts the Federal Circuit case law

Petitioner asserts that the term “base” in construction of the releasing means “should cover a broad set of structures and . . . *should not be limited* to the structure or location of base 51 depicted in the Figures of the ‘129 Patent.” Pet. Reply at 6 (emphasis added). This argument directly contradicts the Federal Circuit case law which mandates that in a construction of a means-plus-function limitation, the corresponding structure must be “*sharply limited* to the structure disclosed in the specification and its equivalents.” *J & M Corp.*, 269 F.3d at 1367 (emphasis added).

In support of its contention that the term “base” should be construed broadly, Petitioner states that “various *disclosed* embodiments of connecting devices are operable to attach to *various structures* in a slap hammer assembly.” Pet. Reply 6 (emphasis added). This statement is factually false because it is based on hypothetical slide hammers conjured by Petitioner and its expert Mr. Drewry rather than the slide hammer that is actually disclosed in the ‘129 Patent. Pet. Reply 6 (referencing a hypothetical slide hammer in which “a hammer sleeve can be locked and unlocked from the slide hammer shaft itself”); *see also* Ex. 1022 at ¶¶29-30 (describing hypothetical slide hammers in which “[t]he shaft may have a recess through all or a portion of its diameter” or “one or more longitudinal plates that nest in corresponding keyways in the hammer sleeve”). In reality, the ‘129 Patent only discloses that the claimed function of “transitioning the slide hammer assembly

between the locked position and the released position” is accomplished specifically by releasably connecting the following structures: the distal end of the hammer sleeve 31 and the base 51. Ex. 1001 at FIGS. 16-18 and 21; *see also* Ex. 2005 at ¶34.



In Figure 21, which is reproduced and annotated above, this releasable connection is performed by the male thread disposed on the base 51 and the female thread disposed on the distal end of hammer sleeve 31. To implement other recited connectors—i.e. “a quick disconnect attachment, a depressible tab, a latch, a clasp, a clip, a clamp”—the mating threads on the distal end of the hammer sleeve 31 and the base 51 would be replaced with the mating components of other connectors. *See* Ex. 2006 at 33:15-22. Thus, while the ‘129 Patent discloses multiple connection mechanisms for performing the locking and releasing function, the experts for both parties agree that the structures that are being connected and disconnected remain

the same: the distal end of hammer sleeve 31 and the base 51. *See id.* at 34:1-4; 34:13-20; *see also* Ex. 2005 at ¶34.

Mr. Drewry's testimony, in response to a question about how a POSA would implement various connectors in the '129 Patent's slide hammer, confirms this point:

A. Well, *in all of these*, I kind of think that the -- you know, the releasing means would be the -- some form of connection. You know, we have multiple versions. They were listed in the specification. And I like to think that, you know, there's kind of a male component and a female component, and so you need complementary or matching geometries based on the connection on one end and the other on the other.

Q. So how would a -- specifically, how would a clasp work to transition the sleeve from locked to unlocked configuration?

A. You would replace the threads 41 with the female portion of the clasp or the male portion of the clasp and you'd have the complimentary connecting mechanism of clasp inside the sleeve 31.

Ex. 2006 at 33:14-34:4 (emphasis added); *see also id.* at 34:11-20 (explaining that a depressible tab would be implemented in a similar manner).

In summary, in the slide hammer assembly that is actually disclosed in the '129 Patent—rather than conjured by Petitioner and its expert—the claimed function of locking and releasing the hammer sleeve is performed by releasably connecting the distal end of the hammer sleeve 31 specifically to the base 51—and not any other

“various structures.” Accordingly, the structure corresponding to the “releasing means” limitation must be limited to the structure and location of the “base 51,” which is the only “base” disclosed in the ‘129 Patent.

The Board’s preliminary construction of the term “base”—i.e., “a structure to which the sliding hammer sleeve is engaged when locked to prevent its movement”—expands the scope of the “releasing means” beyond the structures disclosed in the ‘129 Patent, which the Federal Circuit case law expressly prohibits. *See* Inst. Dec. 23. On the other hand, the construction of the term “base” presented in PO Response—i.e., “a structure that connects a proximal end of an abrading device to a distal end of a shaft of the slide hammer assembly”—properly limits the “releasing means” limitation to the structure that is actually disclosed in the ‘129 Patent and its disclosed location.² PO Resp. 19-20.

² On November 20, 2023, Patent Owner filed a U.S. Patent Application No. 18/514,814 (‘814 Application) reciting the following structural limitation: “a slide hammer assembly having a hammer sleeve, a shaft, and a base, ***the base disposed at a distal end of the shaft***, wherein the hammer sleeve is configured to releasably connect to the base via a mating threaded connection, a quick disconnect attachment, a depressible tab, a latch, a clasp, a clip, or a clamp.” Ex. 2007 at 7 (emphasis added). On January 8, 2024, the USPTO issued “a ***statutory*** double patenting rejection,” finding that the ‘814 Application claims “***the same invention*** as that of claims 1-16 of prior U.S. Patent No. 11020129.” *Id.* at 3 (emphasis added). This USPTO Action

C. The construction of the “releasing means” set forth in PO Response is proper

In accordance with the precedent discussed above, “the PTO may not disregard the structure disclosed in the specification corresponding to [the means-plus-function] language when rendering a patentability determination.” *In re Donaldson Co., Inc.*, 16 F.3d 1189, 1195 (Fed. Cir. 1994) (en banc). In a properly construed means-plus-function limitation, “[the] corresponding structure must include ***all structure that actually performs*** the recited function” and should not be disassociated from its disclosed location. *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1119 (Fed. Cir. 2002) (emphasis added); *Grace Instrument*, 57 F.4th at 1015.

Under these legal principles, the correct—and legally required—claim construction of the “releasing means” must include *all* disclosed structures that *actually perform* the claimed function of “transitioning the slide hammer assembly between the locked position and the released position” and their *disclosed locations*. The construction of the “releasing means” set forth in PO Response—“a mating threaded connection, a quick disconnect attachment, a depressible tab, a latch, a

demonstrates that the USPTO construes the “releasing means” limitation of the ‘129 Patent as requiring a “base” that is disposed specifically “at the distal end of the [slide hammer assembly] shaft.”

clasp, a clip, or a clamp, disposed at an interface between a distal end of a hammer sleeve and a base for releasably connecting the distal end of the hammer sleeve to the base, and equivalent structures,” wherein the base is “a structure that connects a proximal end of an abrading device to a distal end of a shaft of the slide hammer assembly”—fully adheres to the Federal Circuit case law for the reasons enumerated below:

1. The recited structures are limited to those disclosed in the ‘129 Patent. *See Mettler-Toledo*, 671 F.3d at 1296.

2. All recited structures are necessary for the *disclosed* slide hammer to perform the claimed function. *See Micro Chem.*, 194 F.3d at 1258.

3. This construction includes *all* structures that actually perform the claimed function. *See Cardiac Pacemakers*, 296 F.3d at 1119.

4. The recited structures are properly associated with their disclosed locations. *See Grace Instrument*, 57 F.4th at 1015.

5. The proposed construction does not exclude any embodiments disclosed in the ‘129 Patent. *See Micro Chem.*, 194 F.3d at 1258-59.

D. The structure disclosed in the ‘129 Patent corresponding to the claimed function of the “releasing means” is not taught or suggested in Sharma

As explained in the PO Response, Sharma does not teach or suggest the structural configuration for locking and releasing the slide hammer sleeve in which

the distal end of the hammer sleeve releasably connects to the base on the proximal end of the abrading device. PO Resp. 20-22. Therefore, under the proper construction of the “releasing means,” Sharma does not teach or suggest the structure disclosed in the ‘129 Patent corresponding to this means-plus-function limitation. Because the Petition relies solely on Sharma for the “releasing means” limitation, every invalidity ground in this IPR fails.

III. THE PETITION FAILED TO SET FORTH MOTIVATION FOR COMBINING SHARMA’S SLAP HAMMER WITH AN ABRADING DEVICE HAVING AN OPEN TIP AND A BONE-CUTTING LEADING EDGE

A. The Federal Circuit reverses the Board’s obviousness findings where an IPR petition fails to properly set forth the motivation for combining cited prior art

In a recent decision, *Virtek Vision Intl. ULC v. Assembly Guidance Systems, Inc.*, the Federal Circuit reversed the Board’s determination of obviousness where the IPR petition merely mapped the limitations of the challenged claims to multiple elements of several prior art references, but failed to provide sufficient motivation for combining them. 97 F.4th 882 (Fed. Cir. 2024). In the underlying IPR, at the institution stage, similarly to the present IPR, the Board took a lenient approach toward the petitioner finding that: “[a]lthough Petitioner’s analysis could be more extensive,” “we determine that Petitioner had identified the basic elements of obviousness.” *Compare Virtek Vision Intl. ULC v. Assembly Guidance Systems, Inc.*, IPR2021-00062, Paper 7 at 29-30 (P.T.A.B. May 10, 2021) with Inst. Dec. at 60

("[A]lthough some allegations could be clearer, we do not find Petitioner's allegations so ambiguous as to not be able to discern the alleged grounds for unpatentability or discern upon what prior art they are premised."). In *Virtek Vision* IPR, the Board continued its lenient approach in the final written decision, stating that "[a]lthough the analysis in the Petition could have been more robust, we continue to find that the Petition provides a motivation to combine the disclosure of [the cited prior art references]." *Virtek Vision*, Paper 24 at 22 (P.T.A.B. May 6, 2022).

On appeal, the Federal Circuit reversed, concluding that "the Board erred as a matter of law with regard to the motivation to combine." *Virtek Vision*, 97 F.4th at 886. The Federal Circuit explained that "[t]he mere fact that these possible arrangements existed in the prior art does not provide a reason that a skilled artisan would have substituted [elements of one reference for the other]." *Id.* at 887. The Federal Circuit underscored that to prove obviousness, "[i]t does not suffice to simply be known[;] [a] reason for combining must exist." *Id.* at 886. The Federal Circuit also reinforced that the motivation to combine must be provided in the petition itself because "a petitioner may not, in its reply and accompanying expert declaration, rely 'on an entirely new rationale to explain why one of skill in the art would have been motivated to combine.'" *Id.* at n.3 (quoting *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369–70 (Fed. Cir. 2016)).

Here, the analysis provided in the PO Response (and further explained below) establishes that, analogously to deficiencies that led to the reversal in *Virtek Vision*, the Petition in this case merely recites “a disjointed assortment of separate surgical tools,” but fails to combine them into a cohesive unitary abrading device—let alone provide a motivation for making such combination. PO Resp. 50. In reply to this argument, Petitioner continues to argue that the prior art combinations set forth in the Petition would have been obvious because the cited surgical tools share similarities, are adaptable to various procedures, and “would yield safe and predictable results when used together.” Pet. Reply 14-17. But this line of reasoning, at best, can only establish that the cited references *could be* combined together, which is legally insufficient to prove obviousness because “obviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.” *Virtek Vision* (quoting *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015); *see also ADT LLC, v. Vivint, Inc.*, IPR2022-00634, Paper 7 at 16 (P.T.A.B. Oct. 4, 2022) (“[I]t is well-settled that similarity in subject matter is insufficient, by itself, to establish that a person having ordinary skill in the art would have been motivated to combine references.”)).

B. The Petition does not provide motivation for combining Sharma's slap hammer with Donner's, Otte's, or Martz's abrading devices

In addition to Sharma's slap hammer lacking the disclosed "releasing means," the Petition does not mention—let alone provide motivation for—combining Sharma's slap hammer with the abrading devices of Donner, Otte, or Martz, on which the Petition relies for the "open tip" and "cutting edge" limitations. See Pet. 23 (providing a table listing Donner, Otte, and Martz as the only references cited for the "open tip/cutting edge" limitation and listing Sharma as the sole reference for the "slide hammer/released position/locked position/releasing means" limitations). Claim 1 of the '129 Patent recites a single "abrading device" that has an open tip, a bone-cutting leading edge, and a slide hammer assembly with the releasing means. Ex. 1001 at 12:65-13:17. Thus, to establish a *prima facie* case of obviousness, the Petition must prove that at the time of the invention, a POSA would have been motivated to combine Sharma's slap hammer with the abrading device disclosed in Donner (Ground 1), Otte (Ground 1), or Martz (Grounds 2-5). Petitioner failed to do so.

In Ground 1, Petitioner relies on Donner's and Otte's abrading devices for the "open tip/cutting edge" limitations. Pet. 56-57. However, the Petition does not mention combining Sharma's slap hammer with either Donner's or Otte's abrading device. Instead, the Petition *only* discusses (in a conclusory manner) combining

Sharma’s slide hammer with the surgical tools allegedly (but not actually)³ disclosed in Compton:

[i]t would be obvious to a POSITA that the universal impactor with a slap hammer device would be beneficially used *with the tools (e.g., the box chisel and rasp) used in the method of Compton* with predictable improvements in efficiency, particularly in view of the disclosure of the joint preparation tool of Donner.

Id. at 53 (emphasis added). Thus, the Petition points to Donner only in support of its argument that Sharma-Compton combination would have been “predictable” (presumably because Donner’s joint preparation tool has an integrated slap hammer), but does not discuss combining Sharma’s slap hammer with Donner’s joint preparation device. Regarding Otte, the Petition lacks any mention of combining its surgical tool with Sharma’s slap hammer.

Likewise, Grounds 2-5 rely solely on Martz’s abrading device for the “open tip/cutting edge” limitations. *Id.* at 66, 71, 78-79, 83. But again, the Petition does not contemplate—let alone explain motivation for—combining Sharma with Martz. Instead, the Petition only discusses combining Sharma’s slap hammer with the surgical tools disclosed in the base references—Schifano’s “instruments (e.g., the

³ As Petitioner concedes in its Reply, “Compton does not expressly disclose the use of a chisel.” Pet. Reply 18.

box chisel and rasp)” in Ground 2, Compton’s “surgical instruments” in Ground 3, and Black’s “chisels and rasps” in Grounds 4 and 5. *Id.* at 63, 69, 74, 82. Thus, the Petition failed to set forth a prior art combination in which Sharma’s slap hammer is combined with an abrading device having an “open tip/cutting edge”—let alone explain why a POSA would have been motivated to make that combination. Therefore, all grounds in this IPR trial fail to set forth a *prima facie* case of obviousness.

IV. GROUND 1: ADDITIONAL FATAL DEFICIENCIES

A. The alleged “motivation” for the Donner-Sharma combination presented in Petitioner’s Reply is untimely and false

In its Reply, Petitioner argues that “it would be obvious to incorporate the additional functionality provided by the teachings of Sharma to the combination of Compton and Donner.” Pet. Reply 20. As an initial matter, this is an impermissible new argument because the Petition lacks any discussion pertaining to *modifying* Donner to include Sharma’s locking function. *See Yita LLC v. MacNeil IP LLC*, 69 F.4th 1356, 1366-67 (Fed. Cir. 2023) (holding that where “in the original petition the challenger argued only that a reference disclosed a limitation,” that challenger is precluded from arguing on the reply that it would have been obvious to “modify that reference to arrive at the limitation”).

Furthermore, Petitioner’s alleged motivation for modifying Donner’s slide hammer with Sharma’s locking feature is false. Petitioner argues that “Sharma

discloses a device that is essentially the same in function as the joint preparation tool of Donner with the additional feature of a locking mechanism for arresting the slide hammer to allow it *to function as an impactor*” and asserts that “[t]he benefit of the additional functionality is sufficient motivation for a POSITA.” Pet. Reply 20 (emphasis added). But there is no motivation to impart this “additional” functionality onto Donner’s slide hammer because as Mr. Drewry testified in his deposition, Donner’s slide hammer already functions as an impactor—i.e., a device that is configured to be impacted by a mallet:

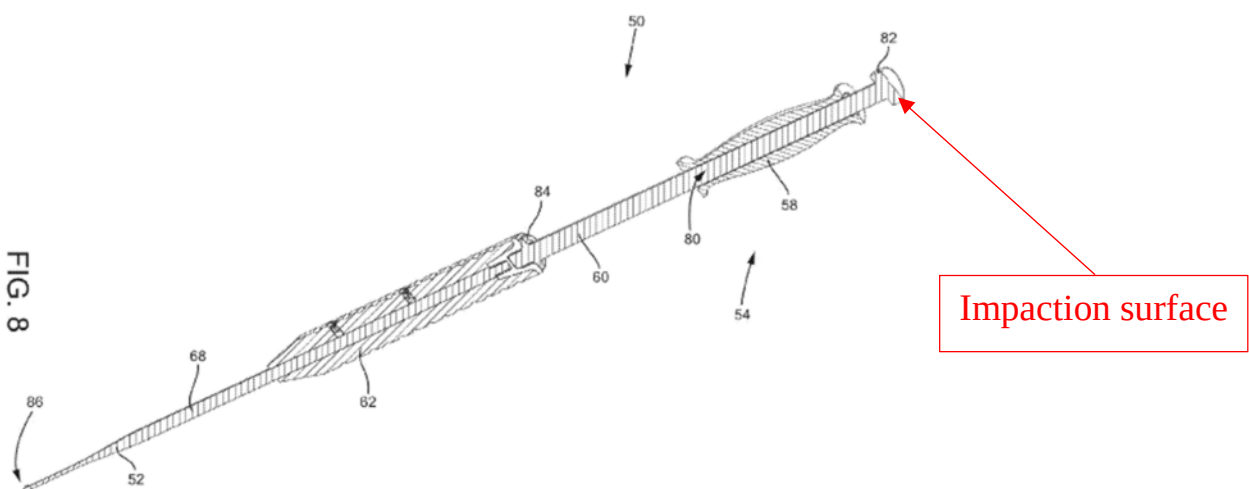
Q. Would you use a mallet with this particular slap hammer?

A. Yes.

Q. And where would you strike with a mallet?

A. I believe it would be -- again, I think -- around No. 82.

Ex. 2006 at 56:5-10; *see also* Ex. 1009 at 1:20-24 (explaining that an “impactor” is a device that attaches to a surgical tool and is configured to be hammered by a mallet.)



Therefore, Petitioner’s alleged “benefit” of combining Donner and Sharma contradicts the evidence in the record, including the testimony of Petitioner’s expert. The only evidentiary support Petitioner cited for this alleged “motivation” is Mr. Drewry’s declaration, which repeats verbatim the same assertions made in Petitioner’s Reply, without providing any additional explanation or citing additional supporting evidence. *Compare* Pet. Reply 20 with Ex. 1022 at ¶22. The Federal Circuit case law dictates that “the expert’s ‘conclusory statements and unspecific expert testimony’ d[o] not qualify as substantial evidence that could support the Board’s conclusions regarding obviousness.” *TQ Delta, LLC v. CISCO Sys., Inc.*, 942 F.3d 1352, 1360–61 (Fed. Cir. 2019) (quoting *DSS Tech. Mgmt., Inc. v. Apple Inc.*, 885 F.3d 1367, 1374–77 (Fed. Cir. 2018)). Thus, in addition to being untimely, the alleged motivation for the Donner-Sharma combination stated in Petitioner’s Reply lacks evidentiary support and therefore fails to establish a *prima facie* case of obviousness.

B. Petitioner’s argument regarding combining Otte’s chisel head with Donner’s joint preparation tool is an improper new argument, and the alleged motivation for this combination is false

The PO Response explained that the Petition merely recited a disjointed assortment of prior art surgical tools without explaining how they are being combined. PO Resp. 50. Unable to provide a meaningful rebuttal to this argument, Petitioner resorts to essentially asking the Board to glean from the “context of the

petition” that it would have been obvious to “combine the chisel head of Otte . . . with the joint preparation tool of Donner.” Pet. Reply 25. With respect to motivation for this combination, Petitioner argues that “all of the Grounds of obviousness are underlain by the rationale of a desire for increased efficiency, which would be accomplished by reducing the number of tools.” *Id.* at 26.

Petitioner’s Donner-Otte arguments are improper for at least the following three reasons. First, the Petition did not discuss combining Otte’s chisel head with Donner’s joint preparation tool, and therefore this is an improper new argument. *See Yita*, 69 F.4th at 1366-67. Second, the obviousness arguments must be stated in the Petition with clarity and particularity, not gleaned from its “context.” *Microsoft Corp. v. FG SRC, LLC*, 860 Fed. Appx. 708, 713 (Fed. Cir. 2021) (“Arguments in a petition must be made with particularity, not opacity.”). Third, swapping Donner’s abrading head for Otte’s would not reduce the number of tools, and therefore Petitioner’s alleged “underlain” desire for increased efficiency does not apply to Donner-Otte combination.

C. Donner’s dual-keel abrading head does not have an open tip

In its Reply, Petitioner proposes a construction of the term “open tip” that itself begins with the word “open,” thereby failing to actually define this term. Pet. Reply 2. Petitioner argues that “[t]he Board’s [preliminary] construction narrows the scope of the claim unnecessarily, and ‘interior void’ should be removed from the

construction of ‘open tip.’” Pet. Reply 2. However, Petitioner’s own expert Mr. Drewry refuted this argument on his cross-examination: “I didn’t say [the open tip] didn’t require an interior void.” Ex. 2006 at 28:15-29:1.

Next, Petitioner explains that it bases its proposed construction of the “open tip” on a hypothetical abrading head in which a “wedge structure” diverts bone issue. Pet. Reply 2. Petitioner itself concedes that “[t]his is not an embodiment expressly disclosed by the ‘129 Patent,” thereby disqualifying its proposed construction as legally improper under *Phillips*. Finally, Petitioner cites *Wenger Manufacturing, Inc. v. Coating Machinery Systems, Inc.* in support of its claim construction, but *Wegner* pertains to construction of a means-plus-function limitation and does not apply to the structural limitation “open tip.” *Id.* (quoting 239 F.3d 1225, 1233 (Fed. Cir. 2001)).

For all the reasons set forth above, Petitioner’s proposed construction of the term “open tip” is improper. Under the proper construction, Donner’s dual-keel abrading head does not satisfy this limitation because it lacks an interior void, as explained in detail in PO Response. PO Resp. 41-42.

V. GROUNDS 2-5 FAIL BECAUSE MARTZ’S LEADING EDGE CUTS SOFT TISSUE AND CARTILAGE—NOT BONE

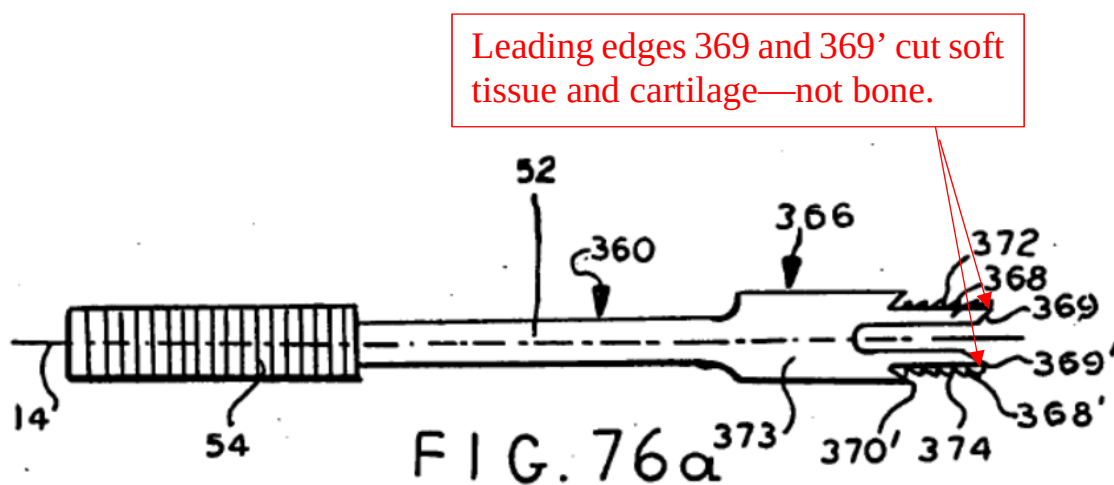
In its Reply, Petitioner asserts that a POSA would “adapt” Martz’s chisel such that it is “sufficiently sharp and appropriately spaced to cut the sacrum and ilium.”

Pet. Reply 24-25. However, the Petition did not describe any modifications or adaptations to Martz's chisel head. Pet. at 66, 71, 78-79, 83. Therefore, this is an improper new argument. *See Yita*, 69 F.4th at 1366-67.

Furthermore, Petitioner's expert Mr. Drewry confirmed that if Marts's chisel tool were used "to make a void in the SI joint," the leading edges of Marts's chisel would cut soft tissue and cartilage—not bone:

Again, 369 and 369 prime would go in first, and ***it would cut the soft tissue and the cartilage*** from the bone, and there's an abrading surface there; and then 370 and 370 prime would come in behind it and would cut the bone and would create the final height of the void.

Ex. 2006 at 81:13-23 (emphasis added).



Grounds 2-5 rely solely on Martz for the limitation “a cutting edge disposed at a leading edge of the open tip, the cutting edge configured to cut bone tissue in the sacroiliac joint.” Pet. at 66, 71, 78-79, 83. Because Martz does not teach this limitation, Grounds 2-5 fail.

VI. CONCLUSION

For the reasons set forth herein and in the PO Response, Petitioner failed to establish unpatentability of any of the challenged claims.

Dated: May 31, 2024

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE
WITH TYPE-VOLUME LIMITATION

Pursuant to Rule 37 C.F.R. § 42.24(d), the undersigned hereby certifies that, based upon the word count of the word-processing system used to prepare this Patent Owner's Sur-Reply, the number of words in this paper complies with 37 C.F.R. § 42.24(a)(1)(i) and is 5,597. Pursuant to 37 C.F.R. § 42.24(a)(1), this word count does not include "a table of contents, a table of authorities, mandatory notices under § 42.8, a certificate of service or word count, or appendix of exhibits or claim listing."

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned certifies that on May 31, 2024 a copy of this Patent Owner's Sur-Reply and accompanying exhibits were electronically served on the Petitioner's counsel of record at the following email addresses:

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Dated: May 31, 2024

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