

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZIMVIE, INC. AND ZIMMER BIOMET SPINE, LLC.,

Petitioners,

v.

ROGER P. JACKSON,

Patent Owner.

Case No. IPR2023-01431

Patent No. 10,548,641

**PATENT OWNER REQUEST FOR RECONSIDERATION OF
INSTITUTION DECISION**

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I. INTRODUCTION

On September 22, 2023, Zimvie, Inc. and Zimmer Biomet Spine, LLC (“Petitioner”) filed an *inter partes* review petition (the “Petition”) challenging claims 1-28 of U.S. Patent No. 10,548,641 (“the ’641 Patent”). The Board granted institution of the IPR on April 1, 2024 (“Institution Decision”). In the Institution Decision the Board determined that Petitioner demonstrated a reasonable likelihood that it would prevail in showing independent claims 1 and 21 are obvious but was not likely to prevail in showing independent claim 26 is obvious. *See* Institution Decision at 24-25 and 51-52.

However, the Board’s conclusion that claims 1 and 21 are likely obvious is based on a misapprehension of Petitioner arguments concerning a leading face surface that is curvate or concave. As will be discussed in detail below, Petitioner argued that the leading face surface of the ’477 Publication would be “retained” and “kept” in the proposed combination. Yet, the Board found that the ’477 Publication shows a flat leading face surface rather than a curvate or concave surface. *Id.* at 47-48. Instead of limiting itself to Petitioner’s argument to retain the ’477 Publication leading face, the Board analyzed claims 1 and 21 under a distinctly different theory that found a curvate leading face surface would be obvious even though not disclosed by the ’477 Publication.

Moreover, the advantages cited by the Board supporting obviousness of a curvate leading face surface improperly relies on Petitioner's arguments for why a person of ordinary skill in the art ("POSA") would be motivated to use the dual-threads of Boschert with the truncated thread start of the '477 Publication instead of using Boschert's tapered thread start. This obviousness analysis and motivation to combine dual-threads and truncated starts is not a motivation or rationale to use a curvate leading face surface. Indeed, there would be no reason for Petitioner to have provided a motivation to use a curvate leading face surface instead of a flat leading face surface in view of Petitioner's belief that the '477 Publication expressly disclosed a curvate leading face surface.

Therefore, the Board misapprehended or overlooked Petitioner's argument that proposed retaining the leading face of the '477 Publication. In addition, the Board misapprehended Petitioner's motivation was to support combining dual-threads with a truncated start and not to support using a curvate leading face surface instead of a flat leading face surface. For these reasons, Patent Owner requests the Board reconsider the Institution Decision and deny the IPR. *See* 37 CFR §42.71(d).

II. INSTITUTION DECISION RELIES ON A DISTINCTLY DIFFERENT THEORY OF OBVIOUSNESS THAN THE PETITION

A. Petition Relies on Retaining the '477 Publication Leading Face

The Petition repeatedly and consistently argues a POSA would have “retained” or “kept” the leading face surface disclosed in the '477 Publication for the obviousness combination set out in the Petition:

- **“In making this combination, a POSA would have retained the truncated thread starts of the '477 Publication** with their curvate leading faces to obtain their known advantages for further easing thread insertion, reduce thread deformation, and reducing sharp edges.” Petition at 23.¹
- “As explained above, supra §VI.C.1, **when combining the '477 Publication and Boschert, a POSA would have kept the '477 Publication's leading face**, including its at least one curvate surface, on each of the dual threads of Boschert.” Petition at 30
- “As discussed above (supra §VI.D.1.c), a POSA would have been **motivated to combine** the '477 Publication with Boschert's teaching of double-lead threads **while retaining the '477 Publication's leading face**.” Petition at 59.

¹ All emphasis added by Patent Owner.

Petitioner's expert likewise repeats these statements a POSA would have "retained" and "kept the same leading face structure" disclosed in the '477 Publication. Ex. 1003 at ¶¶203, 227, 231, 289, and 334. Nowhere does the petition mention modifying the leading face of the prior art combination to something not disclosed in the '477 Publication. In fact, such an approach would contradict the Petitioner's and its expert statements that the leading face of the '477 Patent was "retained" and "kept" in the proposed combination.

The Petition's argument to retain the leading face of the '477 Publication was predicated on Petitioner's belief that the '477 Publication expressly "discloses" a curvate leading face surface. *See* Petition at 5, 23, 30, 44 and 54. The Board correctly determined that it does not. *See* Institution Decision at 44 ("As explained below, the '477 Publication (*see* II.D.2.a.ii.3) shows a truncated thread having a leading face that is flat.").

Considering Petitioner's mistaken assessment of the '477 Publication, there was no reason for the Petition to have provided any motivation that a POSA would have used an undisclosed curvate leading face surface instead of the disclosed flat leading face surface in the '477 Publication. Conversely, the Petition expressly sets forth two motivation rationales for its proposed obviousness theory relating to use of dual threads (i.e., "Motivation to Use Known Dual Threads") and flat bottoms (i.e., "Motivation to Use a Flat Closure Top Bottom"), neither of which is a

motivation to use a curvate leading face surface instead of a flat leading face surface. See Petition at 20-24.

As such, the Petition is wholly based on the incorrect premise that the '477 Publication *itself* disclosed a curvate leading face surface which was then retained in the proposed combination. In view of the finding by the Board that the '477 Publication discloses a flat leading face surface, there is no reasonable chance that Petitioner could prevail in the only obviousness theory presented in the Petition where “a POSA would have kept the '477 Publication’s leading face, including its at least one curvate surface.” Petition at 30 (Petitioner’s claim 1 argument for “curvate surface” limitation); see *also id.* at 59 (Petitioner’s claim 21 argument for “concave surface” limitation stating “while retaining the '477 Publication’s leading face”).

B. Reference Disclosing a Limitation is a Different Argument than Modifying Reference to Read on that Limitation

Rather than retaining or keeping the leading face surface disclosed in the '477 Publication as argued in the Petition, the Institution Decision relies on a theory that it would have been obvious to modify the prior art to use an undisclosed curvate leading face surface. Institution Decision at 44-45. The facts here are analogous to cases where the Federal Circuit has found a Petitioner’s reply argument to modify a reference to read on a limitation is a new theory where the petition relies on disclosure for the relevant limitation. Instructive is the Federal Circuit’s recent analysis in *Yita v. MacNeil*:

Most notably for the present case, in *Intelligent Bio-Systems*, we affirmed the Board’s decision not to consider an argument made on reply because in the original petition the challenger argued only that a reference disclosed a limitation (“Zavgorodny teaches the desired property . . . that the azidomethyl group ‘can be removed under very specific and mild conditions.’”), while in the reply the challenger argued that a relevant artisan would have considered it obvious to modify that reference to arrive at the limitation (“[A]n ordinary artisan would have considered it obvious to use deprotecting conditions other than those described in Zavgorodny.”)...

Like the petitioner in *Intelligent Bio-Systems*, Yita waited until its reply to present what in substance is an argument that it would have been obvious to a relevant artisan to modify Rabbe to arrive at the one-eighth limitation. This argument was a “meaningfully distinct contention,” *Ariosa Diagnostics*, 805 F.3d at 1367, from those made in Yita’s petition, which focused (for the claim limitation at issue) only on what Rabbe discloses.

Yita LLC v. MacNeil IP LLC, 69 F.4th 1356, 1366-67 (Fed. Cir. 2023) (quoting *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1370 (Fed. Cir. 2016) and *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1367 (Fed. Cir. 2015)); see also *Wasica Finance GmbH v. Continental Automotive Sys., Inc.*, 853 F.3d 1272, 1286 (Fed. Cir. 2017) (“Rather than explaining how its original petition was correct, [Petitioner’s] subsequent arguments amount to an entirely new theory of prima facie obviousness absent from the petition. Shifting

arguments in this fashion is foreclosed by statute, our precedent, and Board guidelines.”)

The Board must decide institution based on the arguments in the petition rather than raising its own obviousness theory. *Sirona Dental Sys. GmbH v. Institut Straumann AG*, 892 F.3d 1349, 1356 (Fed. Cir. 2018) (“It would thus not be proper for the Board to deviate from the grounds in the petition and raise its own obviousness theory.”); *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) (“we find no support for the PTO’s position that the Board is free to adopt arguments on behalf of petitioners that could have been, but were not, raised by the petitioner”); *see also SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1358 (2018) (IPR statute “makes the petition the centerpiece of the proceeding both before and after institution”).

Here the Board states that “Petitioner contends that because the closure is intended to be used in a surgical environment the ordinary artisan would have been motivated to eliminate any sharp edges that could pierce a surgeon’s glove.” Institution Decision at 42 (citing Petition at 23). However, the contention the Board relies on states, “a POSA would have **retained** the truncated thread starts of the ’477 Publication with their curvate leading faces.” Petition at 23. This contention was used in the Petition to support Petitioner’s theory that a POSA would have retained the truncated thread of the ’477 Publication when modified to use a dual thread

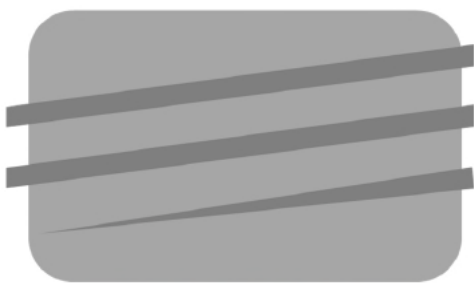
configuration instead of using the tapered thread disclosed in Boschert for the combination. Ex. 1006.

Indeed, the portion of the Petition relied on by the Board is a “Motivation to Use Known Dual Threads” not a motivation to modify a flat leading face surface to a curvate leading face surface. Petition at 22-23. The motivation rationale cited by the Board was used in the Petition to support Petitioner’s theory to “modify the closure of the ’477 Publication with the double lead thread disclosed in Boschert.” *Id.* at 22. It was never suggested in the Petition that a POSA would be motivated to use a leading face not disclosed in the ’477 Publication.

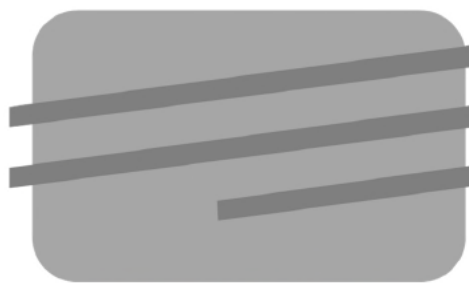
The Board misapprehended or overlooked Petitioner’s assertion that the ’477 Publication disclosed a curvate leading face surface that would be retained in the combination is the foundation of all Petitioner’s arguments including its motivation to combine. While the Board put forth an alternative theory of obvious to modify the leading face of prior art combination to a curvate surface based on the statements from Petitioner’s expert, that alternative theory was not raised in the Petition. The argument as set out in the Petition to retain the ’477 Publication’s leading face is not likely to prevail with respect to any claim in view of the Board’s findings that the ’477 Patent discloses a flat leading face surface.

III. INSTITUTION DECISION RELIES ON MOTIVATION TO USE A TRUNCATED THREAD, NOT A CURVATE SURFACE

The Board also appears to have misapprehended or overlooked that the benefits it relies on to support a motivation to use a curvate leading face surface, including avoiding cutting a surgeon's glove (Institution Decision at 44-45), are provided by truncating a thin tapered thread rather than specifically by using a curvate leading face surface according to Petitioner's expert. Ex. 1003 at ¶64 ("By truncating a thread start a POSA was able to avoid very thin portions of the tapered thread, which are sharp and could cut a surgeon's glove, could be easily damaged, and could lead to cross threading"); *see also* ¶202 ("Also as set forth above, a POSA would have been familiar with truncated thread starts, such as the curvate leading face of the '477 Publication, and their advantages for easing thread insertion, reducing thread deformation, and eliminating sharp edges."). According to the expert testimony, these benefits are provided by any truncated thread. A truncated start can be a flat leading face surface rather than a curvate leading face surface, as illustrated by Petitioner's expert.



Tapered Start



Truncated Start

Ex. 1003 at ¶63

Thus, the expert declaration suggests any truncated leading edge would provide the stated benefits, which was likewise noted in the Institution Decision. Institution Decision at 44-45 (“Based on these disclosures, we determine that Petitioner has sufficiently established for purposes of institution that **a truncated thread structure** is more robust, damage resistant, and cross threading resistant providing a reason to truncate a screw thread.”). Further, the Board found “the ’477 Publication (see II.D.2.a.ii.3) shows a truncated thread having a leading face that is flat.” *Id.* at 44. Given the ’477 discloses a truncated leading face, the only supported conclusion for the proposed combination would be that a POSA would have retained the truncated thread already disclosed in the ’477 Publication to obtain the stated advantages – precisely what Petitioner argued. Petition at 23 (“a POSA would have retained the truncated thread starts of the ’477 Publication”).

Thus, the Board misapprehended or overlooked that the rationale it adopted to use a curvate leading face surface was attributable by Petitioner’s expert to any truncated leading face surface, including the flat leading face surface disclosed in the ’477 Publication. Thus, the stated rationale in the Institution Decision can only be a motivation to use a truncated leading face and not a motivation to modify the prior art combination to use a curvate leading face surface.

IV. CONCLUSION

The Board misapprehended or overlooked that Petitioners arguments related to a “curvate surface” (claim 1) or “concave surface” (claim 21) rests entirely on the theory that the combined prior art would retain the leading face disclosed in the ’477 Publication. This theory is not reasonable likely to prevail in view of the Board’s finding that the ’477 Publication discloses a flat leading face surface. The alternative theory provided in the Institution Decision to modify the combination to use an undisclosed curvate leading face surface is not found in the Petition or supported by Petitioner’s expert testimony.

Therefore, the Board should reconsider its decision and deny institution.

Dated: April 15, 2024

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CERTIFICATE OF SERVICE

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