

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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ARTHREX, INC.,  
Petitioner,

v.

MEDSHAPE, INC.,  
Patent Owner.

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Case No. IPR2025-00053  
Patent No. 7,985,222

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**PETITIONER'S REPLY TO  
PATENT OWNER'S PRELIMINARY RESPONSE<sup>1</sup>**

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<sup>1</sup> Authorized by the Board in the Order dated February 19, 2025 (Paper 7).

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## **PETITIONER’S EXHIBIT LIST**

| <b>Exhibit No.</b> | <b>Description</b>                                                                                                                                                                                             |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1001</b>        | U.S. Patent No 7,985,222 (“the ’222 Patent”)                                                                                                                                                                   |
| <b>1002</b>        | Declaration of Mike Sherman                                                                                                                                                                                    |
| <b>1003</b>        | <i>Curriculum Vitae</i> of Mike Sherman                                                                                                                                                                        |
| <b>1004</b>        | Prosecution History of U.S. Patent Application 11/112,865                                                                                                                                                      |
| <b>1005</b>        | U.S. Patent No. 6,685,708 (“Monassevitch”)                                                                                                                                                                     |
| <b>1006</b>        | U.S. Patent No. 4,275,717 (“Bolesky”)                                                                                                                                                                          |
| <b>1007</b>        | U.S. Patent No. 5,035,712 (“Hoffman”)                                                                                                                                                                          |
| <b>1008</b>        | Poncet, <i>Nitinol Medical Device Considerations</i> . SMST-2000: Proceedings Int’l. Conference Shape Memory and Superelastic Tech., 441-455 (2000)                                                            |
| <b>1009</b>        | Duerig et al., <i>The Use of Superelasticity in Medicine</i> . Metall. 50, 569-74 (1996)                                                                                                                       |
| <b>1010</b>        | Duerig et al., <i>An overview of superelastic stent design</i> . Minimally invasive therapy & allied technologies: MITAT: Official J. of the Society for Minimally Invasive Therapy vol. 9, 3-4. 235-46 (2000) |
| <b>1011</b>        | Ryhanen, <i>Biocompatibility Evaluation of Nickel-Titanium Shape Memory Metal Alloy</i> , Diss., Oulu: University of Oulu (1999)                                                                               |
| <b>1012</b>        | Stoeckel, <i>The Shape Memory Effect – Phenomenon, Alloys and Applications</i> . Proceedings of Shape Memory Alloys for Power Systems, EPRI, 1-13 (1995)                                                       |

| Exhibit No. | Description                                                                                                                                                |
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| <b>1013</b> | Kauffman et al., <i>The Story of Nitinol: The Serendipitous Discovery of the Memory Metal and Its Applications</i> , The Chemical Educator. 2. 1-21 (1996) |
| <b>1014</b> | Kirk-Othmer, <i>Encyclopedia of Chemical Technology</i> , 3 <sup>rd</sup> Ed., Vol. 20 (1982)                                                              |
| <b>1015</b> | van der Wijst, <i>Shape Memory Alloys featuring Nitinol</i> , TU Eindhoven, 62 (1992)                                                                      |
| <b>1016</b> | Duerig, <i>The Use of Superelasticity in Modern Medicine</i> , MRS Bulletin 27, 101–104 (2002)                                                             |
| <b>1017</b> | U.S. Patent No. 5,190,546 (“Jervis”)                                                                                                                       |
| <b>1018</b> | Joint Claim Construction Statement filed November 26, 2024 in <i>Medshape, Inc., et al. v. Arthrex, Inc.</i> , No. 6:24-cv-151 (W.D. Tex)                  |
| <b>1019</b> | United States District Courts, National Judicial Caseload Profile, 12-Month Periods Ending December 31, 2019 through December 31, 2024                     |

As authorized, Petitioner files this Reply to address Patent Owner's flawed arguments concerning *Fintiv*, 35 U.S.C. § 325(d) and claim construction.

**I. PATENT OWNER'S CLAIM CONSTRUCTION IS UNSUPPORTED AND CONTRADICTS THE INTRINSIC RECORD**

The Board should reject Patent Owner's argument that method claim 1 requires an ordering of steps such that "the stretching [in limitation 1.3] does not occur until after the bone device is inserted into at least one piece of bone." POPR, 2-3. Patent Owner did not advance this proposed construction in the Parallel Litigation, and only raises it now to avoid institution. *See* Ex. 1018. The "general rule" is that "[u]nless the steps ... actually recite an order, the steps are not ordinarily construed to require one." *Mformation Techs., Inc. v. Research in Motion Ltd.*, 764 F.3d 1392, 1398 (Fed. Cir. 2014). Here, the claim language does not recite an order with respect to the inserting and stretching steps,<sup>2</sup> and Patent Owner fails to identify any justification that "***require[s]***" the steps to be carried out in its proposed order.

Furthermore, the intrinsic record contradicts Patent Owner's position. First, the specification describes stretching occurring before or "during" the insertion process, but ***not*** "after" insertion. Ex. 1001, 6:12-15 (stretching "during" insertion);

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<sup>2</sup> Notably, the ***next*** limitation in claim 1 ***does*** require an order ("after performing the stretching, ..."), further indicating no required order for the subject limitation.

6:49-56 (stretching before insertion); 7:35-41 (same); *see also* 5:32-35 (describing SIM formation before or as a result of placement, not after). Second, during prosecution, the relevant limitation previously recited a timing: “***after inserting the bone device***, creating in a responsive portion of the bone device ... via stretching ....” Ex. 1004, 350 (claim 47, emphasis added). However, the Examiner rejected this language as lacking written description support (*id.*, 106-07), and Patent Owner thereafter ***deleted*** the sequential language. *Id.*, 88, 94 (“~~after inserting the bone device~~, creating in a responsive portion of the bone device ....”). Thus, the intrinsic record contradicts the proposed order being within the scope of the claim, let alone the claim being restricted to it. *See Iridescent Networks, Inc. v. AT&T Mobility, LLC*, 933 F.3d 1345, 1352-54 (Fed. Cir. 2019) (holding § 112 rejection response informed proper claim scope, regardless of whether it constituted a disclaimer).

## II. PATENT OWNER’S SECTION 325(d) ARGUMENTS FAIL

Patent Owner argues that the Petition presents “the same or substantially the same prior art or arguments previously ... presented to the Office,” but fails to offer any cogent explanation in support. At the outset, Patent Owner does not dispute that the prior art applied in the Petition (Monassevitch, Hoffman and Bolesky) was never before the Examiner during prosecution. For this reason alone, the Board can reject application of Section 325(d). *Edwards Lifesciences Corp. et al. v. Colibri Heartvalve LLC*, IPR2020-01649, Paper 8 at 20-21 (PTAB Mar. 26, 2021).

Nor has—or can—Patent Owner establish the references are “substantially the same.” Patent Owner’s “Part 1” argument fails to identify (a) how “Campbell” relates to (much less is cumulative of) Monassevitch as applied in Ground 1, or (b) for Ground 2, how Jervis—only cited in an IDS and never substantively examined—is allegedly the same as Hoffman with respect to how the reference is applied. POPR, 15-16. Patent Owner did not submit these references nor substantively compare to Monassevitch and Hoffman. Where, as here, the Patent Owner failed to “present[] substantive comparisons of the prior art to show how [it] is substantially the same,” the Board should decline to exercise its discretion. *Google LLC v. Uniloc 2017 LLC*, IPR2020-00396, Paper 11 at 18-19 (PTAB Aug. 3, 2020).

Should the Board perform an independent analysis, the art and arguments presented in the Petition are not “substantially the same” as the prosecution. For example, regarding Ground 1, Patent Owner argues it overcame the Campbell rejection after it “add[ed] the claim element ‘after performing the stretching, fixing the second portion of the bone device to the second bone fragment.’” POPR, 15. Notably, this “add[ed]” element came from (dependent) claim 50, which the Examiner did *not* reject based on Campbell, presumably because it was not present in the reference. *See* Ex. 1004, 88, 107-08. By contrast, Petitioner has demonstrated that the limitation *is* taught (or suggested by) by Monassevitch. *See* Pet., 36-39.

Because Monassevitch is applied in a different manner than Campbell (*i.e.*, against the relevant feature), Ground 1 does not present “substantially the same” art or arguments. *See Adv. Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 15 (PTAB Feb. 13, 2020) (precedential).

Further, Campbell and Monassevitch are not “substantially the same” with respect to the challenged claims. Monassevitch discloses a portion of a staple is fixed to a second bone fragment after stretching to allow the shape memory alloy to *revert* to its shape while the bone heals, as claimed. Pet., 36-39. By contrast, Campbell involves a nail device where current is applied to heat the shape memory alloy so that it *expands*. *See* U.S. Patent No. 5,415,660, 7:23-8:18, Fig. 1<sup>3</sup>; *see Oticon Med. AB v. Cochlear Ltd.*, IPR2019-00975, Paper 15 at 15-16 (PTAB Oct. 16, 2019) (precedential in relevant part) (not cumulative where art discloses “different structures that serve different purposes”). Patent Owner fails to acknowledge or address these clear differences.

Patent Owner’s Ground 2 argument also fails. First, Jervis was not substantively addressed during prosecution, it was merely listed in an IDS. Ex. 1004, 112, 281. *See Fasteners for Retail, Inc. v. RTC Indus., Inc.*, IPR2019-00994, Paper

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<sup>3</sup> Citations are to the patents because Patent Owner did not submit the references.

9 at 9-10 (PTAB Nov. 5, 2019) (“a reference that ‘was neither applied against the claims nor discussed by the Examiner’ does not weigh in favor of exercising our discretion”). Second, Patent Owner fails to explain how Hoffman (the applied reference) and Jervis are allegedly similar with respect to any limitation. Instead, Patent Owner merely asserts that Jervis, like Hoffman, describes “shape memory materials,” and is therefore “the same type of art.” POPR, 16. But the Petition does not merely rely on Hoffman’s disclosure of “shape memory materials,” rather, it explains in detail how the similarity in structure and operation between Bolesky and Hoffman would motivate one to apply Hoffman’s teachings regarding the advantages of shape memory in this context to Bolesky, which matches the challenged claims. Pet., 54-57. Patent Owner fails to identify how Jervis’ teachings are substantially similar. *See, e.g.*, U.S. Patent No. 4,665,906, 9:4-35.

Because the first part of *Advanced Bionics* is unmet, the Board “need not address the second part.” *JUUL Labs, Inc. v. NJOY, LLC*, IPR2024-00160, Paper 10 at 13 (PTAB May 24, 2024).

### **III. FINTIVFACTORS WEIGH AGAINST DISCRETIONARY DENIAL**

Patent Owner argues that the Parallel Litigation is moving at an “advanced pace” such that (for Factor 2) “it is highly likely that trial will be scheduled to occur several months prior to any Final Written Decision,” which it claims, without evidence, is “confirmed by statistics from the overall jurisdiction.” POPR, 26-29. To

the contrary, the current statistics for the Western District of Texas indicate a median time-to-trial of 33.9 months (Ex. 1019, 37), which would result in a trial date in January 2027—over *eight months after* the April 2026 (expected) deadline for a Final Written Decision (“FWD”). Patent Owner concedes “no trial date [is] currently scheduled” (POPR, 28), and thus Factor 2 “weighs heavily against exercising discretion.” *Microsoft Corp. v. Interdigital Patent Holdings, Inc.*, IPR2024-00305, Paper 12 at 8-9 (PTAB May 10, 2024). The purpose of *Fintiv* is to avoid judicial inefficiencies resulting from parallel trials on the same grounds. *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 5-16 (PTAB Mar. 20, 2020) (precedential). With the FWD expected to occur well before trial, and given the provisions 35 U.S.C. § 315(e), there simply would not be any judicial efficiency in this case.

The remaining factors likewise do not support discretionary denial. Although Petitioner has not yet sought a stay, this at most renders Factor 1 “neutral.” *Microsoft*, Paper 12 at 8 (PTAB May 10, 2024). Patent Owner’s citations to decisions denying stays are irrelevant, as those were issued by Judge Albright, not Judge Pulliam (the presiding judge), and it offers no evidence to suggest that Judge Pulliam would rule in a similar manner. For Factor 3, Patent Owner omits that, due to the district court’s schedule, fact discovery only recently opened, and no depositions or third-party discovery have taken place. This factor “weighs only

marginally, if at all, in favor of exercising discretion.” *Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24 at 11 (PTAB June 16, 2020) (informative) (recognizing “much work remains” where “fact discovery is still ongoing, expert reports are not yet due, and substantive motion practice is yet to come”). Factor 4 “weighs against discretionary denial,” despite inclusion of the same references in Petitioner’s invalidity contentions (POPR, 30-31)<sup>4</sup>, because the “[FWD] is likely to issue well before any district court trial, at which time Petitioner ... will be estopped from contesting the validity of any claim challenged in this proceeding.” *Microsoft*, Paper 12 at 11. Regarding Factor 5, the Board should give little weight to the fact that the same parties are in the Parallel Litigation, which does not outweigh the other factors. *See Weatherford U.S., L.P. v. Enventure Global Tech., Inc.*, IPR2020-01684, Paper 16 at 11-13 (PTAB Apr. 14, 2021). For Factor 6, the Petition presents a strong case of unpatentability, whereas Patent Owner’s response rests on an untenable claim construction. Further, an impartial review of Mr. Sherman’s entire declaration readily demonstrates that it does not simply “parrot” the Petition. *Compare* Ex. 1002, 34-84 *with* Pet., 17-53.

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<sup>4</sup> Petitioner confirms that all challenged claims are currently at issue in the Parallel Litigation, and its prior statement suggesting otherwise was an oversight.

DATED: February 26, 2025

Respectfully submitted,

By: /Megan S. Woodworth/

Megan S. Woodworth  
Reg. No. 53,655  
VENABLE LLP  
600 Massachusetts Ave., NW  
Washington, DC 20001  
T 202-344-4507  
F 202-344-8300

## **CERTIFICATE OF SERVICE**

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105, the undersigned certifies that on February 26, 2025, a true and correct copy of the foregoing Petitioner's Reply to Patent Owner's Preliminary Response and supporting exhibits were served electronically on counsel for Patent Owner at the following address:

[CHolloway@ktslaw.com](mailto:CHolloway@ktslaw.com)

[mmorlock@ktslaw.com](mailto:mmorlock@ktslaw.com)

[JAlemanni@ktslaw.com](mailto:JAlemanni@ktslaw.com)

[KKoballa@ktslaw.com](mailto:KKoballa@ktslaw.com)

[cdamitio@ktslaw.com](mailto:cdamitio@ktslaw.com)

DATED: February 26, 2025

Respectfully submitted,

By: /Megan S. Woodworth/

Megan S. Woodworth  
Reg. No. 53,655  
VENABLE LLP  
600 Massachusetts Ave., NW  
Washington, DC 20001  
T 202-344-4507  
F 202-344-8300