

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MEDTRONIC, INC.,
Petitioner,
v.

MOSKOWITZ FAMILY LLC,
Patent Owner

Case No. IPR2026-00163
Patent No. 11,376,136

PATENT OWNER RESPONSE

TABLE OF CONTENTS

I. INTRODUCTION	1
II. THE '136 PATENT	2
III. SUMMARY OF THE ASSERTED REFERENCES	3
A. U.S. Patent Application Publication No. 2005/0278026 A1 to Gordon (Ex. 1013)	3
B. U.S. Patent Application Publication No. 2006/0253201 A1 to McLuen (Ex. 1012)	6
C. International Publication No. WO 02/062272 to Michelson (Ex. 1014)	8
IV. LEVEL OF ORDINARY SKILL IN THE ART.	10
V. CLAIM CONSTRUCTION.....	10
VI. GROUND 1: GORDON FAILS TO ANTICIPATE OR RENDER OBVIOUS CLAIMS 9-12, 14-18, AND 20	10
A. Petitioner's Anticipation Ground Fails Because Gordon Does Not Disclose a Single Embodiment Arranged as in the Claims.....	11
B. Gordon Fails to Teach or Suggest 9[c] or 18[c].	15
1. Gordon Fails to Teach or Suggest the Claimed Second Adjusting Tool in Limitations 9[c] and 18[c].	15
2. Gordon Fails to Teach or Suggest the Claimed Handle in Limitation 9[c]......	17
C. Gordon Fails to Teach or Suggest 9[h] or 18[h]......	20
D. Gordon Fails to Teach or Suggest 9[i] or 18[j]......	24
E. Gordon Fails to Teach or Suggest 9[j] or 18[i]......	26
F. Gordon Fails to Teach or Suggest Claim 10.....	29
G. Gordon Fails to Teach or Suggest Claim 14.....	31
H. Gordon Fails to Teach or Suggest Claim 15.....	34
I. Gordon Fails to Teach or Suggest Claim 17.....	35
J. Gordon Fails to Teach or Suggest Claim 20.....	37
VII. GROUND 2: MCLUEN IN VIEW OF GORDON FAILS TO RENDER OBVIOUS CLAIMS 9-12, 14-18, AND 20.	39

A. Petitioner Fails to Establish a Motivation to Combine McLuen and Gordon.....	40
1. McLuen already addresses the screwdriver-slippage problem on which Petitioner relies.....	40
2. Petitioner identifies no reason a POSA would replace McLuen’s channel-fitting tool with Gordon’s materially different holder.....	42
3. Petitioner’s asserted structural similarities do not supply the missing motivation.....	44
4. Petitioner’s alleged motivations depend on a combination it has not shown would work.....	48
B. Petitioner Fails to Establish a Reasonable Expectation of Success.....	49
1. Petitioner does not identify a working configuration of the proposed combination.....	49
2. Petitioner does not identify or analyze the adaptations required to make the combination work.....	50
3. Culbert’s conclusory opinion does not supply the missing analysis.....	51
C. McLuen-Gordon Fails to Teach or Suggest the Claimed Second Adjusting Tool Required by Claims 9 and 18	52
D. McLuen-Gordon Fails to Teach or Suggest the Tool-Engagement Portions Required by Limitations 9[h], 18[h], and 18[j].....	53
E. McLuen-Gordon Fails to Teach or Suggest the Simultaneous Engagement Required by Limitations 9[j] and 18[i].....	56
F. McLuen-Gordon Fails to Teach or Suggest the Method Required by Claim 17.....	59
VIII. GROUND 3: GORDON IN VIEW OF MICHELSON FAILS TO RENDER OBVIOUS CLAIMS 9-12, 14-17.....	59
A. Michelson Does Not Cure the Ground 1 Deficiencies Unrelated to Limitation 9[c] and Claim 17	59
B. Petitioner Fails to Establish a Motivation to Replace Gordon’s Integrated Driver with Michelson’s Expander Driver	60
1. Gordon already provides an integrated driver for installing and expanding an implant.....	60

2. Michelson’s driver is part of a coordinated holder-and-driver system.	62
3. Petitioner’s proposed combination does not yield the benefit it identifies as a reason for a POSA to consider Michelson.	63
4. Gordon’s disclosure of alternative control members does not support Petitioner’s redesign.	65
5. The complete proposed combination reflects hindsight selection from multiple systems.	66
C. Petitioner Fails to Establish a Reasonable Expectation of Success	66
IX. GROUND 4: MCLUEN IN VIEW OF GORDON AND MICHELSON FAILS TO RENDER CLAIMS 9-12 AND 14-17 OBVIOUS.....	68
A. Michelson Does Not Cure Ground 2’s Deficiencies.	68
B. Petitioner’s Three-Reference Reconstruction Reflects Hindsight and Lacks a Reasonable Expectation of Success.	69
X. CONCLUSION.....	71

TABLE OF AUTHORITIES

Cases

<i>In re Fine</i> , 837 F.2d 1071 (Fed. Cir. 1988)	39
<i>Microsoft Corp. v. Biscotti, Inc.</i> , 878 F.3d 1052 (Fed. Cir. 2017)	11
<i>Net MoneyIN, Inc. v. VeriSign, Inc.</i> , 545 F.3d 1359 (Fed. Cir. 2008)	11, 14, 38

PATENT OWNER’S EXHIBIT LIST

Exhibit	Description
2001	Pretrial Scheduling Order, <i>Moskowitz Family LLC v. Medtronic, Inc. et. al.</i> , No. 0:25-CV-00769-PJS-DLM, ECF No. 36 (Dist. Of Minn. September 10, 2025) (Micko, D.)
2002	Stipulation Extending Time For Defendants To Respond To Plaintiff’s Complaint, <i>Moskowitz Family LLC v. Medtronic, Inc. et. al.</i> , No. 0:25-CV-00769-PJS-DLM, ECF No. 15 (Dist. Of Minn. March 19, 2025)
2003	Stipulation Extending Time For Defendants To Respond To Plaintiff’s Complaint, <i>Moskowitz Family LLC v. Medtronic, Inc. et. al.</i> , No. 0:25-CV-00769-PJS-DLM, ECF No. 24 (Dist. Of Minn. May 22, 2025)
2004	First Amended Complaint, <i>Moskowitz Family LLC v. Medtronic, Inc. et. al.</i> , No. 0:25-CV-00769-PJS-DLM, ECF No. 27 (Dist. Of Minn. May 23, 2025)
2005	Stipulation to Amend Case Scheduling Concerning Contentions and Claim Construction, <i>Moskowitz Family LLC v. Medtronic, Inc. et. al.</i> , No. 0:25-CV-00769-PJS-DLM, ECF No. 42 (Dist. Of Minn. January 16, 2026)
2006	October 3, 2025 Update to USPTO Interim Director Discretionary Process
2007	March 24, 2025 Guidance on USPTO’s rescission of “Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District court Litigation”

2008	USPTO FAQs for Interim Processes for PTAB Workload Management (Archived)
2009	Complaint, <i>Moskowitz Family LLC v. Zimvie Inc.</i> , No. 1:22-cv-01632-UNA, ECF No. 1 (D. Del. December 23, 2022)
2010	Information Disclosure Statement citing '293 patent (great-great-grandparent of the '136 patent) in Medtronic U.S. Patent Application No. 17/246,968 (May 3, 2021)
2011	Notice of References Cited in Notice of Allowance citing earlier publication (U.S. Pat. App. Pub. No. 2008/0033440) of '903 patent (great-great-great-grandparent of the '136 patent) in Medtronic U.S. Patent Application No. 13/440,241 (September 3, 2015)
2012	U.S. Patent No. 5,658,335 to Allen.
2013	<i>Intentionally Left Blank</i>
2014	Complaint, <i>Moskowitz Family, LLC v. NuVasive, LLC et. al.</i> , No. 1:25-CV-00711-WCB, ECF No. 1 (D. Del. June 6, 2025)
2015	Scheduling Order, <i>Moskowitz Family, LLC v. NuVasive, LLC et. al.</i> , No. 1:25-CV-00711-WCB, ECF No. 17 (D. Del. October 20, 2025) (Bryson, W.)
2016	Amended Pretrial Scheduling Order, <i>Moskowitz Family LLC v. Medtronic, Inc. et. al.</i> , No. 0:25-CV-00769-PJS-DLM, ECF No. 44 (Dist. Of Minn. January 20, 2026)
2017	Complaint, <i>Moskowitz Family LLC v. Globus Medical, Inc.</i> , No. 6:19-cv-00672, ECF No. 1 (W.D. Tex. November 20, 20192)
2018	Second Amended Complaint, <i>Moskowitz Family LLC v. Medtronic, Inc. et. al.</i> , No. 0:25-CV-00769-PJS-DLM, ECF No. 48 (Dist. Of Minn. January 29, 2026)

2019	Complaint, <i>Moskowitz Family LLC v. Medtronic, Inc. et al.</i> , No.0:25-cv-00769, ECF No. 1 (Dist. Of Minn February 28, 2025)
2020	Letter from Michael Fink, Counsel for Nathan Moskowitz to Newton Metcalf Jr., Director of Advanced Technologies Program for Medtronic, Inc., dated June 30, 2015
2021	Letter from Michael Fink, Counsel for Nathan Moskowitz to Brad Lerman, Senior Vice President and General Counsel for Medtronic, Inc., dated June 30, 2015
2022	Attachments to Notice Letters including Moskowitz Patent Portfolio and U.S. Patent No. 9,005,293
2023	Uniloc USA, Inc. v. Motorola Mobility LLC, Case No. 2:16-CV-00992-JRG, ECF No. 125 (E.D. Tex. Apr. 5, 2017)) (Gilstrap, J.)
2024	Information Disclosure Statement citing Gordon in the '136 great-great-great-great-grandparent U.S. Patent Application No. 11/208,644 (considered by examiner on September 17, 2008)
2025	Information Disclosure Statement citing Gordon in the '136 great-great-great-great-grandparent U.S. Patent Application No. 11/536,815 (considered by examiner on October 15, 2009)
2026	Information Disclosure Statement citing Gordon in the '136 great-great-great-grandparent U.S. Patent Application No. 11/842,855 (considered by examiner on September 03, 2010)
2027	Information Disclosure Statement citing Gordon in the '136 great-great-grandparent U.S. Patent Application No. 13/084,543 (considered by examiner on April 18, 2012)

2028	Information Disclosure Statement citing Gordon in the '136 great-great-grandparent U.S. Patent Application No. 13/108,982 (considered by examiner on October 10, 2014)
2029	Information Disclosure Statement citing Gordon in the '136 great-grandparent U.S. Patent Application No. 13/210,157 (considered by examiner on February 4, 2015)
2030	Information Disclosure Statement citing Gordon in the '136 grandparent U.S. Patent Application No. 15/894,471 (considered by examiner on February 26, 2019)
2031	Information Disclosure Statement citing Gordon in the '136 parent U.S. Patent Application No. 15/944,117 (considered by examiner on April 23, 2019)
2032	Medtronic's Memorandum of Law in Support of Motion to Stay, <i>Moskowitz Family LLC v. Medtronic, Inc. et. al.</i> , No. 0:25-CV-00769-PJS-DLM, ECF No. 61 (Dist. Of Minn. February 20, 2026)
2033	Moskowitz' Opposition to Medtronic's Motion to Stay, <i>Moskowitz Family LLC v. Medtronic, Inc. et. al.</i> , No. 0:25-CV-00769-PJS-DLM, ECF No. 65 (Dist. Of Minn. February 27, 2026)
2034	Declaration in Support of Jason M. Zucchi's Notice of Intent
2035	Declaration in Support of William R. Woodford's Notice of Intent
2036	Declaration in Support of Todd S. Werner's Notice of Intent
2037	Declaration in Support of Shelleaha L. Jonas's Notice of Intent
2038	Transcript of Deposition of Mr. Brad Culbert, July 29, 2026
2039	Declaration of Dr. Ken Gall, Ph. D.
2040	Curriculum Vitae of Ken Gall, Ph. D.

2041	Excerpts of Merriam-Webster's Collegiate Dictionary, Eleventh Edition, 2003
------	---

I. INTRODUCTION

Petitioner's four grounds share the same fundamental flaw: they use the challenged claims as a blueprint to assemble isolated features without establishing the coordinated implant-and-tool system the claims require. The claims do not merely recite an implant, holder, and driver. They require those components to have defined structural relationships that permit the holder to remain engaged with the implant while a separate adjusting tool extends through it and operates the implant's adjusting screw.

Ground 1 assembles its alleged anticipation from Gordon's materially different implant embodiments and an instrument Gordon describes for only one of them. Gordon never discloses that composite arrangement, and Petitioner does not establish a reason or reasonable expectation of success in creating it. The remaining grounds compound that hindsight reconstruction. Ground 2 applies Gordon's localized-lobe holder to McLuen's implant with incompatible channels designed for use with its own tool. Ground 3 dismantles Gordon's integrated instrument and imports Michelson's separate driver while discarding the complementary holder structures designed to control it and provide a secure engagement with the implant. Ground 4 stacks those modifications without analyzing the resulting three-reference system.

Petitioner's conclusory assertions of similarity and compatibility cannot substitute for disclosure, motivation, or a reasonable expectation of success. The Petition therefore fails to establish that any challenged claim is unpatentable.

II. THE '136 PATENT

The '136 patent discloses an expandable intervertebral implant and coordinated instrumentation for inserting a spinal implant and expanding it after placement. The assembly includes a first tool that engages and stabilizes the implant and defines a passage for a separate adjusting tool, and a second adjusting tool that extends through that passage of the first tool to engage and actuate the implant's expansion mechanism. Ex. 1001, 2:64-3:10, 7:44-8:15, 8:61-9:17, 10:52-11:22, Fig. 1A-1E, 5A-5G; Ex. 2039¹ ¶¶ 37-40.

Independent claims 9 and 18 reflect this coordinated architecture. Each recites a first tool with structures for engaging an implant, a second adjusting tool receivable through the first tool for adjusting the implant, corresponding tool-engagement portions on the expandable implant, and further require the adjusting screw to be positioned so that the second adjusting tool can engage the screw while the first tool remains engaged with the implant. Dependent claims 10-12, 14-17, and 20 add

¹ Patent Owner submits the declaration of Ken Gall, Ph.D. (Ex. 2039), an expert in medical implants and surgery. Ex. 2039 ¶¶ 6-14, 32-36.

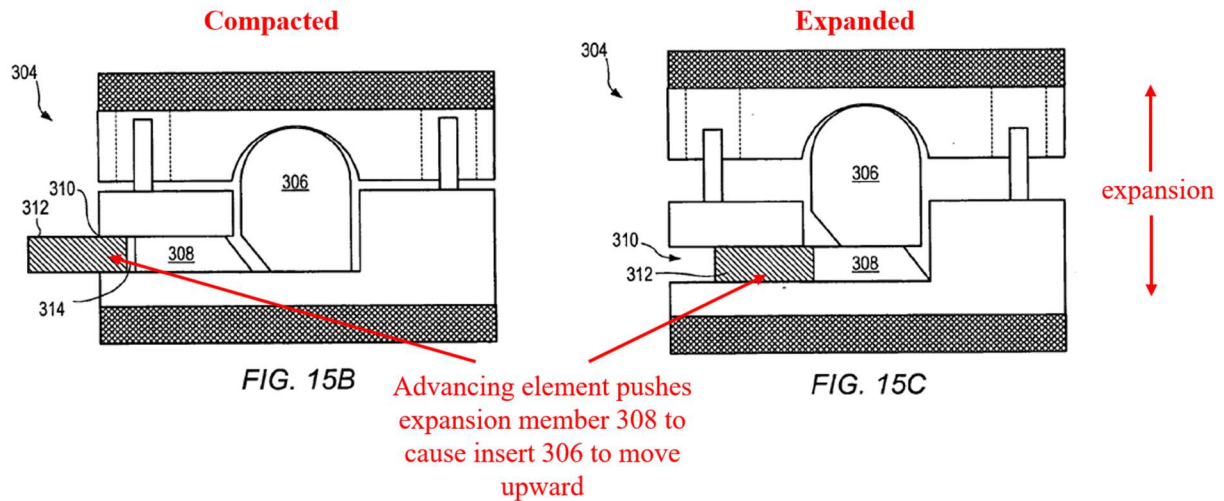
further requirements concerning, among other things, the location of engagement-
portions on the implant, details concerning a wedge that facilitates implant
expansion, implant structures for facilitating spinal fusion, the geometry of the
engagement prongs of the implant holder, and a method of using the claimed system.
Ex. 2039 ¶¶ 41-42.

A POSA would therefore understand the claimed invention to require
coordinated implant and tool structures that maintain implant engagement and
alignment while permitting a separate adjusting tool to actuate the implant's
expansion mechanism. Ex. 2039 ¶ 43.

III. SUMMARY OF THE ASSERTED REFERENCES

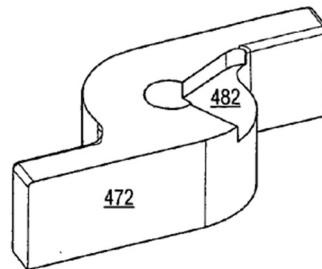
A. U.S. Patent Application Publication No. 2005/0278026 A1 to Gordon (Ex. 1013)

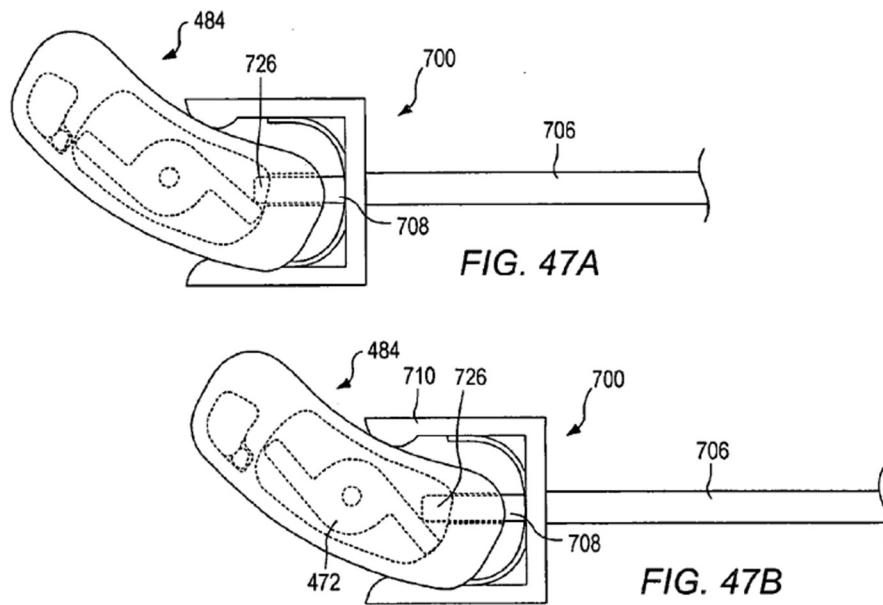
Gordon describes multiple implant embodiments with different expansion
mechanisms. Petitioner narrowly focuses on implant 304 shown in Figures 15A–
15C. Implant 304 is expanded by a driver that advances an “advancing element”
312 into opening 310 of the implant to push expansion member 308 into a wedge of
insert 306, which pushes insert 306 upward and expands the implant. Ex. 1013 ¶
177; Ex. 2039 ¶ 46.



Ex. 1013, Figs. 15B-15C (Annotated)

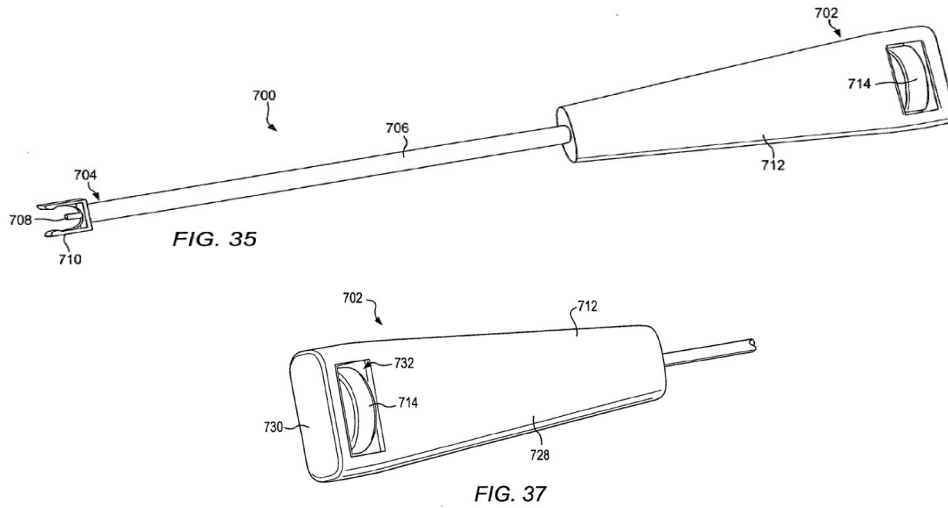
Gordon separately describes implant 484, which employs a different expansion mechanism. In implant 484, there is a torsional expansion member 472 in the interior of the implant that is accessible through an opening so that a driver can be advanced into the opening and force the expansion member to rotate and cause the implant to expand. Ex. 1013 ¶¶ 238, 248, Figs. 24D, 47A–47B; Ex. 2039 ¶ 47.





Ex. 1013, Figs. 24D, 47A–47B

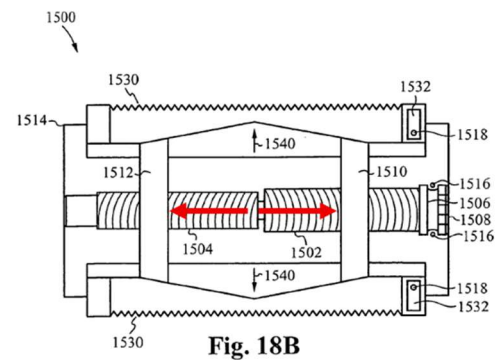
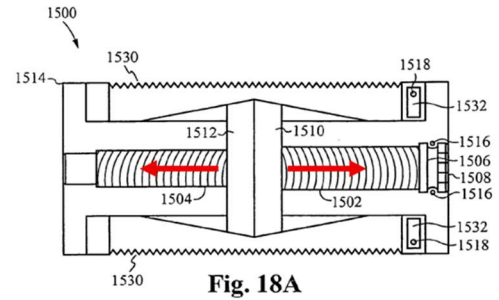
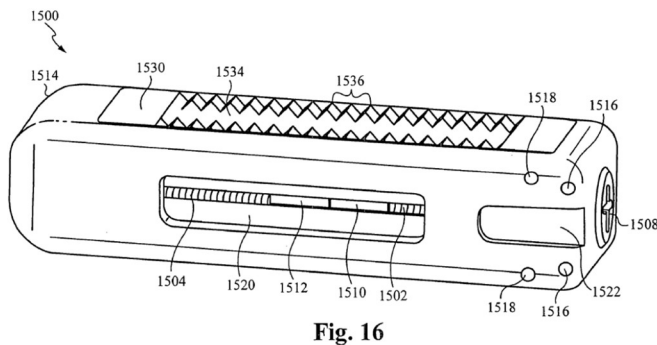
Gordon describes instrument 700 as a single instrument for holding and expanding implant 484. Ex. 1013, ¶ 227, Figs. 35, 38. Instrument 700 includes a shaft 706 extending between a handle 712 on a proximal end and a holding device 710 on the distal end. The holding device 710 includes holding arms 716 with lobes 722 at the distal end configured to engage complementary recesses 733 on implant 484. Shaft 706 houses an integrated driver 708 that axially extends into implant 484 to cause rotation of an internal torsional expansion member 472. Driver 708 is further attached to a thumbwheel 714 housed inside the handle with access provided through slot 732 of handle 712, which allows the thumbwheel 714 to be rotated by the surgeon during use. *Id.* ¶¶ 228–235, Figs. 35, 37; Ex. 2039 ¶ 48–51.



Ex. 1013, Figs. 35, 37

B. U.S. Patent Application Publication No. 2006/0253201 A1 to McLuen (Ex. 1012)

McLuen discloses an expandable spinal implant 1500 that is expanded by rotating positioning means 1508 without axially translating the same. Rotating positioning means 1508 drives internal blocks along oppositely threaded screws, forcing upper and lower tabs 1530 outward. Ex. 1012 ¶¶ 74–75, Figs. 16, 18A–18B.



Ex. 1012, Figs. 16, 18A–18B (Annotated)

McLuen recognizes that using a conventional screwdriver to rotate positioning means 1508 risks slippage and potential injury to surrounding tissue. *Id.* ¶ 76; Ex. 2039 ¶¶ 52-53. To address that problem, McLuen provides engagement channels 1522 in the implant to engage the receiving attachments of a holding tool while the screwdriver rotates positioning means 1508. Ex. 1012 ¶¶ 76–78. Fig. 16.

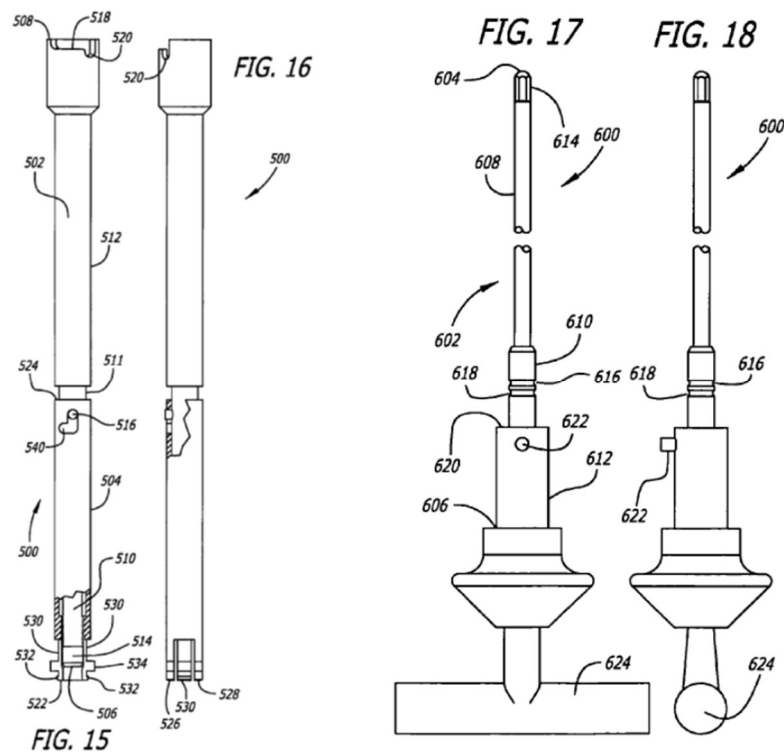
As McLuen explains:

Screw drivers unfortunately have the ability to slip out of place. When performing surgery near someone's spine, it is preferable to prevent or at least minimize the slipping ability. To do so, channels 1522 are implemented to receive a tool (not shown). The tool (not shown) has attachments that fit within the channels 1522 to secure the tool (not shown) in place.

Ex. 1012 ¶ 76. McLuen further explains that “[t]o ensure that a device (not shown) does not slip while turning the positioning means 1508, channels 1522 are utilized to secure the device.” *Id.* ¶ 78. A POSA would therefore understand McLuen’s attachment-and-channel interface as designed to stabilize the tool relative to the implant while rotational torque is applied to positioning means 1508. *Id.*; Ex. 2039 ¶¶ 54-57.

C. International Publication No. WO 02/062272 to Michelson (Ex. 1014)

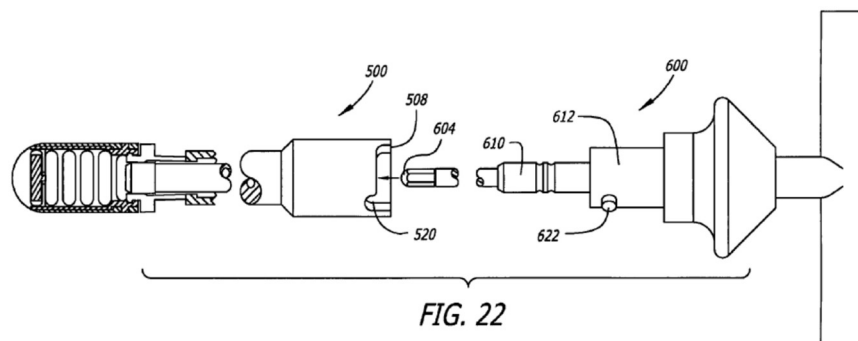
Michelson discloses an expandable interbody implant and associated instrumentation, including implant holder 500 and a separate expander driver 600. Ex. 1014, 19-20, Figs. 15-18; Ex. 2039 ¶ 58.



Ex. 1014 Figs. 15-18

Each of the implant, holder, and driver include unique structures to ensure the components are securely attached and can operate in a coordinated fashion. Implant holder 500 includes shaft 502 disposed within outer sleeve 504 that includes a shoulder and flanges at the distal end that interact with corresponding structures in a recess on the implant to lock implant holder 500 to the implant. Ex. 1014, 19. To expand the implant, driver 600 is inserted through implant holder 500 and rotated to actuate the implant's expansion mechanism. *Id.* 24, 26, Fig. 22; Ex. 2039 ¶ 59.

As Michelson does with the implant and holder, Michelson includes mechanisms on each of the holder and driver to provide secure and coordinated operation thereof. Specifically, implant holder 500 includes internal spring locks 546 and 548 for lockable engagement with detents 616 and 618 on driver 600, as well as a cutout 518 and slot 520 for receiving peg 622 on driver 600 to provide a means for limiting rotation of driver 600 when engaged with implant holder. Ex. 1014, 20–24, Figs. 17-18, 22–24.



IV. LEVEL OF ORDINARY SKILL IN THE ART.

A person of ordinary skill in the art (“POSA”) at the time of the invention would have had a bachelor’s degree in mechanical engineering, biomechanical engineering, or similar discipline, and five years relevant industry experience relating to medical device design or manufacture; or a master’s degree in such disciplines, and either three years relevant industry experience or three years teaching at the collegiate level as a professor; or a doctorate in such disciplines; or a medical degree and residency training in neurosurgery or orthopedic surgery, and three to five years of post-residency spinal surgery and spinal instrumentation experience as a primary surgeon. Ex. 2039 ¶¶ 32–34. Someone with less technical education but more experience, or more technical education but less experience, could also meet this standard. *Id.*

Petitioner’s definition of a POSA differs slightly, but the arguments below apply under either definition.

V. CLAIM CONSTRUCTION

All terms of the ’136 Patent should be given their ordinary and customary meaning. *Id.* ¶ 44.

VI. GROUND 1: GORDON FAILS TO ANTICIPATE OR RENDER OBVIOUS CLAIMS 9-12, 14-18, AND 20

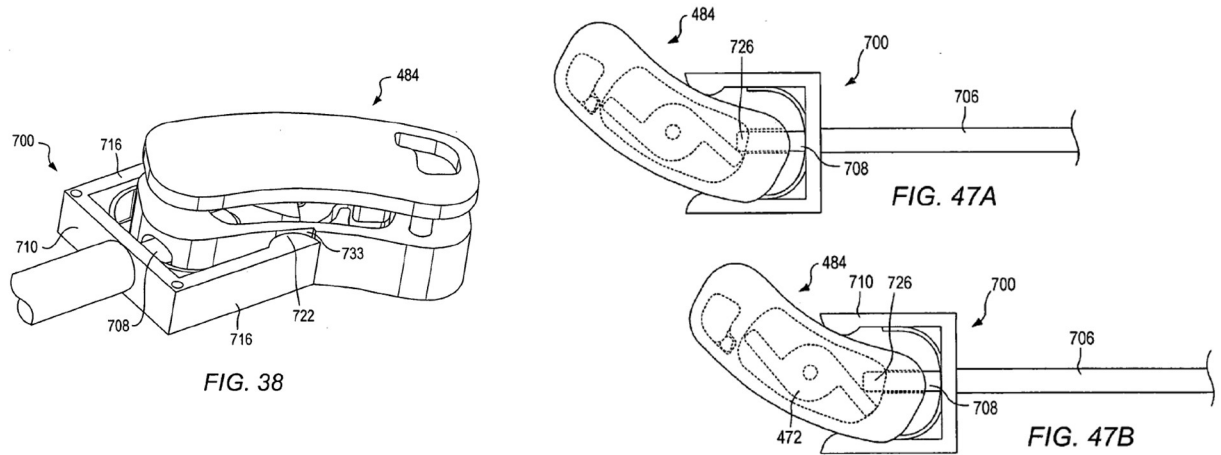
Gordon does not anticipate or render obvious claims 9–12, 14–18, and 20. *Id.* ¶ 60.

A. Petitioner’s Anticipation Ground Fails Because Gordon Does Not Disclose a Single Embodiment Arranged as in the Claims.

Anticipation requires a single reference to disclose every claim element arranged as in the claim, not merely scattered across separate embodiments. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369–71 (Fed. Cir. 2008); *Microsoft Corp. v. Biscotti, Inc.*, 878 F.3d 1052, 1068–69 (Fed. Cir. 2017). Gordon does not disclose the elements of claims 9 and 18 in the claimed arrangement. Ex. 2039 ¶ 61. The Petition instead assembles an anticipation theory from distinct embodiments in Gordon. Pet. 16–34. In particular, it relies on one embodiment of an implant—implant 304—and an instrument 700 that is designed for holding and expanding a different implant—implant 484—while ignoring the structural differences of those implants and the lack of any connection between instrument 700 and implant 304.

Petitioner relies on instrument 700 for limitations 9[a]–9[d]. Pet. 16–22. Gordon describes instrument 700 in connection with implant 484, and never describes its suitability for any other implants. Ex. 1013 ¶¶ 237–238, 242, 247–249, Figs. 38–41, 46–47D; Ex. 2039 ¶ 62. Instrument 700 includes attachment arms 716 having prongs 722 for engagement with corresponding recesses 733 on the implant. Instrument 700 is structured so that when the prongs are inserted into the recesses of the implant, it causes driver 708 to be aligned inside a hole of implant 484 for engagement with a rotational insert 472. Instrument 700 includes a thumbwheel inside its handle 712 that can be rotated to cause axial advancement of the driver

further into the implant body, thereby causing insert 472 to rotate and expand implant 484. Ex. 1013, ¶ 248, Figs. 47A–47B; Ex. 2039 ¶ 68.



Ex. 1013, Figs. 38, 47A-47B

For limitations 9[e]–9[g], Petitioner switches to implant 304, depicted in Figures 15A–15C. Pet. 23–28. But implant 304 structurally differs from implant 484. Implant 304 includes a different expansion mechanism. Expansion member 308 is pushed beneath an insert 306 to increase the height of implant 304. Expansion member 308 is inserted through an opening 310, followed by an advancing element 312, which threadably drives expansion member 308 beneath insert 306. To maintain expansion, expansion member 308 is left beneath insert 306. Ex. 1013 ¶ 177, Figs. 15B–15C; Ex. 2039 ¶ 63.

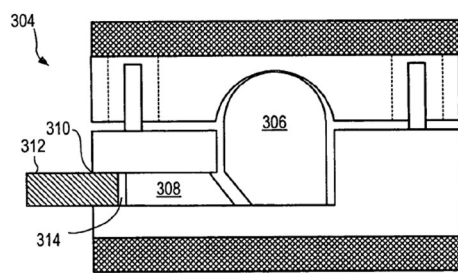


FIG. 15B

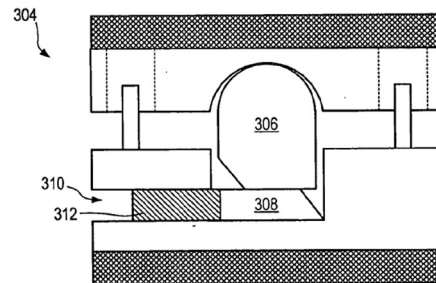


FIG. 15C

Ex. 1013, Figs. 15B-15C

As the above figures show, whatever tool is used to push advancing element 312 into the implant needs to initially engage advancing element 312 outside of the implant.

For limitations 9[h]–9[j], Petitioner switches to implant 484 because unlike implant 304 it has recesses 733 that engage with the holder. Pet. 29–34. Thus, Petitioner’s alleged system is a composite of Gordon’s embodiments: implant 304 supplies the expandable implant and adjusting mechanism, implant 484 supplies the tool-engagement portions, and instrument 700—designed to engage with implant 484—is a tool to use with implant 304. Gordon never discloses or suggests that combination. Ex. 2039 ¶¶ 64–65.

Petitioner effectively concedes the point by alternatively arguing that it “would have been obvious” to modify implant 304 to include recesses 733. Pet. 30–31. Mr. Culbert likewise admitted that Gordon’s figures illustrating implant 304 do not show the recesses 733. Ex. 2038 at 56:10–13. The possibility of combining

different features from different embodiments does not establish the disclosure of the proposed combination. *Net MoneyIN*, 545 F.3d at 1371.

Petitioner attempts to tie the disclosures related to implants 304 and 484 by describing them both as “c-shaped,” but that does not supply the missing disclosure and ignores the differences in the structure and operation of the implants. Ex. 2039 ¶ 66. Implants 304 and 484 are not interchangeable implementations of the same structure. *Id.* ¶¶ 67-70. Implant 304 expands by advancing expansion member 308 beneath insert 306 using threadably driven advancing element 312. Ex. 1013 ¶ 177, Figs. 15B–15C. Implant 484 expands differently: a driver advances through lower body 488 and directly engages insert 472 to cause its rotation about a central axis of the implant. *Id.* ¶ 248, Figs. 47A–47B; Ex. 2039 ¶¶ 67–68.

Petitioner ignores these differences, failing to identify where recesses 733 would be placed on implant 304 relative to opening 310, expansion member 308, advancing element 312, or the other structures of implant 304. Likewise neither Gordon nor Petitioner identifies whether such recesses could be incorporated without interfering with its different expansion mechanism. Petitioner merely identifies distinct embodiments and alleges a surface-level similarity therebetween. Pet. 29; Ex. 2039 ¶¶ 69–70.

The same defect applies to Petitioner’s use of instrument 700. Gordon depicts instrument 700 holding and expanding implant 484 in Figure 38 and Figures 47A–

47B, but never describes or suggests instrument 700 coupled to or operating implant 304. Ex. 2039 ¶ 71. Indeed, Petitioner’s fallback argument that implant 304 could be modified with recesses 733 for use with an instrument “such as instrument 700” confirms that the asserted arrangement is not disclosed by Gordon. *See* Pet. 30.

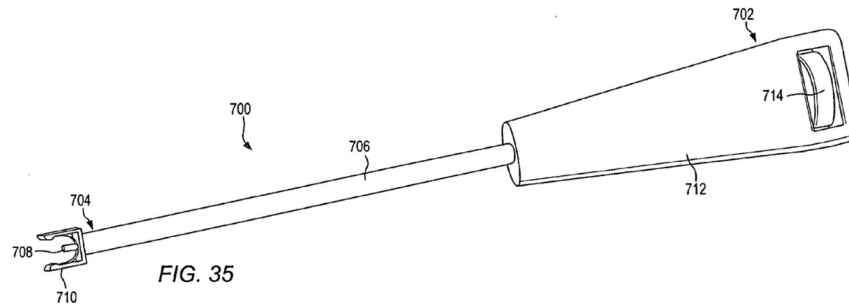
Accordingly, Gordon does not anticipate claim 9 because it does not disclose implant 304, recesses 733, and instrument 700 arranged together as the claim requires. The same defect defeats anticipation of independent claim 18 and each of their dependents (e.g., claims 10–12, 14–17, and 20). Ex. 2039 ¶¶ 72–73.

B. Gordon Fails to Teach or Suggest 9[c] or 18[c].

Claims 9 and 18 require “a second adjusting tool having a second proximal end and a second distal end.” Claim 9 additionally requires that “the second adjusting tool includes a second handle positioned at the second proximal end.” Gordon does not disclose, teach, or suggest these claim elements. Ex. 2039 ¶¶ 74.

1. Gordon Fails to Teach or Suggest the Claimed Second Adjusting Tool in Limitations 9[c] and 18[c].

The claimed “second adjusting tool” of claims 9 and 18, which serves to drive a screw, is distinct from the claimed first tool, which serves to hold the implant. To meet this requirement, Petitioner manufactures two tools from Gordon’s instrument 700. It identifies outer shaft 706, holding device 710, and handle 712 as the “first tool,” while treating driver 708—housed within that same instrument—as the “second adjusting tool.” Pet. 17, 19.



Ex. 1013, Fig 35.

But instrument 700 is a single, unitary tool. Ex. 2039 ¶¶ 76.

Gordon expressly confirms that instrument 700 is a “single instrument” capable of both positioning and expanding an implant. Ex. 1013 ¶ 226 (stating that “a single instrument may be used to . . . position an implant in an intervertebral space and to actuate an expansion member to expand the implant in the intervertebral space”); Ex. 2039 ¶¶ 77. Gordon identifies outer shaft 706, driver 708, holding device 710, and handle 712 as components of that instrument. Ex. 1013 ¶ 227. Consistent with that description, driver 708 is disposed within outer shaft 706 and handle 712 and can be rotated by its thumbwheel 714, which is housed inside handle 712, and accessible through slot 732. *Id.* ¶¶ 228, 233–235; Ex. 2039 ¶ 78. These cooperating components form a unitary, “single instrument” that can perform Gordon’s holding and expansion functions—not separate first and second tools. Ex. 2039 ¶ 79.

As shown in Figure 35, thumbwheel 714 permanently resides in handle 712. Ex. 2039 ¶ 78. Moreover, Gordon never describes driver 708 as removable from or

separately insertable into instrument 700. Ex. 2039 ¶ 50. That silence is notable because Gordon expressly identifies other components as removable or separable when intended. Ex. 1013 ¶¶ 241 (“In the embodiment shown in FIG. 39, inserter 738 may be easily separated from outer shaft 706.”), 255 (“The rods may be removable from base member 798.”). Gordon provides no comparable disclosure for driver 708. Ex. 2039 ¶ 80.

The fact that driver 708 performs the expansion function while holding device 710 performs the holding function does not transform those integrated components into two tools. Gordon designed instrument 700 precisely to provide a “single instrument” that performs multiple functions. Ex. 2039 ¶ 79.

As Gordon does not disclose the claimed first and second tools of claims 9 and 18, Ground 1 fails to show that independent claims 9 and 18, and their dependent claims (e.g., claims 10–12, 14–17, and 20), are anticipated or obvious. Ex. 2039 ¶ 81.

2. Gordon Fails to Teach or Suggest the Claimed Handle in Limitation 9[c].

Ground 1 also fails because Gordon fails to teach a second adjusting tool having “a second handle positioned at the second proximal end.”

Because Petitioner offered no construction of “handle,” the ordinary and customary meaning applies: “a part that is designed esp[ecially] to be grasped by the hand.” Ex. 2041 at 565; Ex. 2039 ¶¶ 44, 82. Consistent with that meaning, a

mechanical handle provides a structure the user can grasp to manipulate the associated tool.

Petitioner alleges that Gordon's driver 708 satisfies the claimed second adjusting tool and that thumbwheel 714 satisfies the claimed "second handle." Pet. 19–21; Ex. 2039 ¶ 83. Gordon's thumbwheel is not a handle. It cannot be grasped by a hand; it can only be manipulated using 1–2 fingers. Ex. 2039 ¶ 84; Ex. 2038, 46:24–47:4. (Culbert explaining that "[a] thumbwheel is operated -- to be used with at least a thumb. But in the case of Figure 35, it appears to also potentially be a finger as well, at least one finger, so a thumb and a finger"). Consequently, the thumbwheel does not offer the ability to provide rotational or axial force as a handle does.

Nor do any of the alternative "control members" that Gordon identifies, namely a knob, lever, and button qualify as handles. Ex. 1013 ¶ 228. As Dr. Gall explains, these structures would similarly reside within the slot 732 of the handle 712, which would not allow the user to grasp the structure with the hand, or apply rotational and axial force like with a handle. Ex. 2039 ¶¶ 84, 89, 246. Those structures would also be operated using fingers, and would not be a handle that can be grasped by the hand any more than the thumbwheel. Ex. 2039 ¶¶ 51, 84.

Moreover, Gordon expressly distinguishes handles from thumbwheels and the alternative control members. It specifically identifies the portion of instrument that

can be grasped by a hand as “handle 712,” and explains that it provides access to thumbwheel 714 through slot 732, and protects thumbwheel 714 by serving as its housing. Ex. 1013, ¶¶ 227, 234–235; Ex. 2039 ¶¶ 85-86. Thus, Gordon distinguishes the handle from the control members by name, structure, and function. Ex. 2039 ¶¶ 86–87. Petitioner effectively concedes that instrument 700 of Gordon lacks a handle by advancing Ground 3, in which it relies on Michelson in an effort to show a motivation to add the claimed second handle. Pet. 81–85.

Petitioner’s reliance on the handle of Allen key 501 of the ’136 Patent is misplaced. Pet. 21.

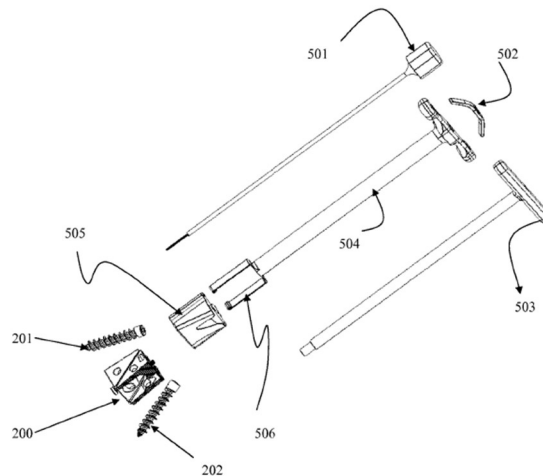


Fig. 5C

Ex. 1001, Fig. 5C

Figure 5C of the '136 Patent shows that Allen key 501 has a handle that can readily be held and grasped by the hand—not a thumbwheel housed inside a handle that is accessible only to a finger or two. Ex. 2039 ¶ 90.

Gordon therefore does not disclose or suggest the “second handle” required by claim 9, and Ground 1 fails as to claim 9 and its challenged dependent claims. *Id.* ¶¶ 91–92.

C. Gordon Fails to Teach or Suggest 9[h] or 18[h].

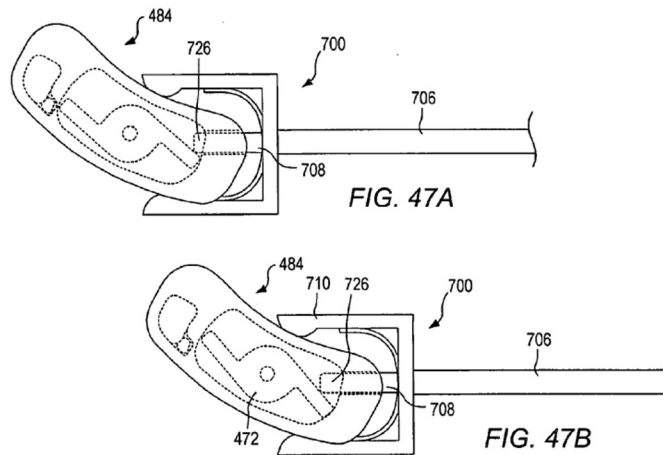
Ground 1 also fails because Gordon does not teach or suggest that “the expandable spinal implant defines first and second tool engagement portions sized, shaped, and configured for receiving the first and second engagement prongs of the first tool” as required by 9[h] or the substantially similar limitation set forth at 18[h]. Pet. 29, 49; Ex. 2039 ¶¶ 93-94.

Petitioner relies on a modified version of implant 304 to satisfy this limitation. As previously discussed, Gordon does not disclose recesses 733—which Petitioner alleges satisfy the claimed engagement portions of 9[h]/18[h]—on implant 304. Consequently, to satisfy elements 9[h] and 18[h], Petitioner argues that a POSA would have modified implant 304 to include recesses 733 so that implant 304 could be inserted and expanded using instrument 700. Pet. 30. But Petitioner ignores the structural and functional differences between Gordon’s embodiments and never performs any of the analysis that would be required to make such a modification.

Ex. 2039 ¶¶ 95–96. Gordon itself explains that the selection of the location for recesses 733 depends on the surgical approach and “the location of an expansion member of the implant.” Ex. 1013 ¶ 237; Ex. 2039 ¶ 97. Yet Petitioner never determines where recesses 733 could be placed on implant 304 or whether that placement would permit instrument 700 to operate implant 304, especially in view of implant 304’s materially different expansion mechanism. Ex. 2039 ¶¶ 98–100.

Implant 304 uses advancing element 312 to advance expansion member 308 through opening 310 so that it pushes against a wedge on insert 306 and causes it to move upward. *Id.* ¶ 177, Figs. 15B-15C. Advancing element 312 initially extends outside of implant 304, from where it is engaged by a tool and pushed into the implant opening. Ex. 2039 ¶¶ 101, 108.

Instrument 700 operates implant 484 differently: driver head 726 is advanced into the lower body 488 of the implant where it directly engages and rotates insert 472. Ex. 1013 ¶¶ 238, 248, Figs. 47A-47B. Implant 484 has an empty opening to allow the driver to extend within the implant when holding arms engage recesses 733. Ex. 2039 ¶¶ 101, 108.



Ex. 1013, Figs. 47A-47B

Petitioner ignores these differences, and does not explain where recesses 733 could be positioned relative to implant 304's opening 310, expansion member 308, and advancing element 312, or show that driver 708 could engage with advancing element 312 when holding arms 716 engage with those hypothetical recesses. Ex. 2039 ¶ 110. Petitioner's reliance on driver 708 being capable of engaging a set screw (Pet. 31) does not provide a location for recesses 733 on implant 304, nor explain how instrument 700 could engage implant 304's external set screw (e.g., advancing element 312) and the hypothetical recesses 733. Ex. 2039 ¶ 102.

Petitioner also ignores whether adding recesses would interfere with the expansion mechanism of implant 304 or compromise its load-bearing structure. Cutting recesses removes material and creates geometric discontinuities whose effects depend on their depth, shape, and proximity to internal structures. Ex. 2039 ¶¶ 103–105. Implant 304 already has cavities to house insert 306 and expansion

member 308, and reductions in structural strength caused by introduction of such recesses, could result in mechanical failures of the implant. *Id.* Petitioner does not consider such impacts when proposing the addition of recesses to implant 304.

The “c-shaped” design of the embodiments does not answer any of these questions either. An external shape says nothing about an implant’s internal expansion mechanism, tool interface, or recess location. Indeed, the internal mechanics of implants 304 and 484 are substantially different, even though their external shapes may be similar. Because Gordon requires consideration of internal expansion mechanisms to determine recess location, a POSA would not merely focus on external geometries. Ex. 1013 ¶ 237; Ex. 2039 ¶¶ 107, 109. Petitioner’s reliance on alleged external similarities is thus flawed.

Petitioner merely identifies a desired result—implant 304 equipped with recesses that permit use of instrument 700—without performing the analysis a POSA would perform in order to reach that conclusion. Ex. 2039 ¶ 106. That is insufficient to establish anticipation or a motivation to make the proposed modification with a reasonable expectation of success. Ex. 2039 ¶¶ 111. Accordingly, for this additional reason, Petitioner fails to show that Gordon renders independent claims 9 and 18, and their dependents (e.g., claims 10–12, 14–17, and 20)), anticipated or obvious. Ex. 2039 ¶ 112.

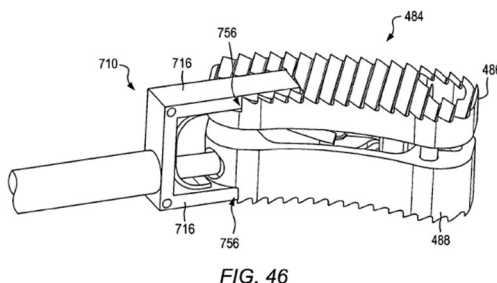
D. Gordon Fails to Teach or Suggest 9[i] or 18[j].

Gordon also fails to teach or suggest that “the first tool engagement portion is formed in [a] first side surface of the expandable spinal implant and the second tool engagement portion is formed in a second side surface of the expandable spinal implant” as required by element 9[i] or the substantially similar requirements of 18[j]. Pet. 32, 49; Ex. 2039 ¶¶ 113-114.

Petitioner asserts that “a POSITA would have understood that modification of implant 304 to include recesses 733, with respect to limitation [9.h], implies that implant 304 also discloses limitation [9.i].” Pet. 33. But Gordon does not teach that side-surface engagement is generally preferred or appropriate for other implants. Ex. 2039 ¶¶ 115–117. As explained above, Gordon states that recess location may depend on the surgical approach and “the location of an expansion member of the implant.” Ex. 1013 ¶ 237. Petitioner never analyzes those considerations for implant 304.

Gordon also expressly discloses alternative engagement locations. Figure 46 shows an alternative holding arrangement in which holding device 710 “may engage a top surface of implant 484,” with notches 756 accommodating holding arms 716. *Id.* ¶ 247. Thus, even for implant 484, Gordon does not prescribe opposing side recesses as the necessary or preferred way to secure the implant. The same holding

function can be accomplished through a different engagement location. Ex. 2039 ¶ 117.



Ex. 1013, Fig. 46

Accordingly, Petitioner is wrong to assume that a desire to hold implant 304 during insertion and expansion would lead a POSA to the claimed side-surface arrangement. Petitioner provides no reason to select opposing side surfaces rather than another location suited to implant 304's particular geometry and expansion mechanism. And as discussed above, Petitioner also fails to analyze whether implant 304's side walls could accommodate recesses of the necessary dimensions without interfering with its internal components or compromising its load-bearing structure. Ex. 2039 ¶¶ 118–121.

Accordingly, Gordon neither discloses the claimed side-surface engagement portions on implant 304 nor provides a reason to modify implant 304 to include them as explained above. Ground 1 therefore fails for this additional reason as to claims 9 and 18 and their challenged dependent claims. Ex. 2039 ¶¶ 122–123.

E. Gordon Fails to Teach or Suggest 9[j] or 18[i].

Gordon additionally fails to teach or suggest that “the adjusting screw is positioned within the expandable spinal implant in a screw location such that the second adjusting tool can extend through the adjusting tool passage of the first tool to engage the screw head of the adjusting screw while the first and second engagement prongs of the first tool are engaged with the first and second tool engagement portions of the expandable spinal implant” as required by limitation 9[j], or the substantially similar requirements of limitation 18[i]. Pet. 33, 49; Ex. 2039 ¶ 124.

Claims 9 and 18 require more than an adjusting screw, driver, and engagement portions. The structures must be arranged so that the adjusting tool can engage the screw *while* the first tool remains engaged with the implant. Petitioner again constructs that arrangement from different Gordon embodiments: advancing element 312 comes from implant 304, while instrument 700, holding arms 716, engagement lobes 722, and recesses 733 come from implant 484. Pet. 31–34. Gordon does not disclose those structures arranged together as claimed, and Petitioner’s anticipation argument therefore fails. Ex. 2039 ¶¶ 125-127.

Petitioner’s obviousness position also fails. Petitioner simply asserts that the instrument 700 disclosure “equally applies” to implant 304. Pet. 34. It does not. Ex. 2039 ¶¶ 127–128. Engagement of holding arms 716 with recesses 733 fixes the

implant's position and orientation relative to instrument 700 and driver 708. Thus, any recesses added to implant 304 would have to be located so that, when holding arms 716 engage them, driver 708 aligns with advancing element 312—both in terms of the driver's orientation and the position of driver head 726 relative to advancing element 312. *Id.* Petitioner never identifies where those recesses would be placed, much less demonstrates the required alignment.

As described above, Gordon discloses different engagement structures and instrument arrangements for different implants. Gordon explains that the location of the holding recesses may be selected based on the surgical approach and the location of the implant's expansion mechanism. Ex. 1013 ¶¶ 179, 197, 237; Ex. 2039 ¶ 129. For implant 484, Gordon coordinates recesses 733, holding device 710, and driver 708 so that the holding arms retain the implant in a fixed position while driver head 726 advances through a tapped hole in lower body 488 to engage insert 472. Ex. 1013 ¶ 248; Ex. 2039 ¶ 130. Implant 304 has a different geometry and expansion mechanism: advancing element 312 is initially external to the implant and is driven into the implant to advance expansion member 308 beneath insert 306 through opening 310. Ex. 1013 ¶ 177. Petitioner provides no comparable analysis showing how instrument 700 would align with advancing element 312 while holding arms 716 simultaneously engage recesses added to implant 304. Ex. 2039 ¶ 131, 133.

To satisfy limitations 9[j] and 18[i], driver 708 must be able to engage advancing element 312 while holding arms 716 simultaneously engage the hypothetical recesses on implant 304. Whether that can occur depends on the relative positions of the recesses, holding arms, driver, opening 310, and advancing element 312—relationships the Petition never addresses. Ex. 2039 ¶ 132.

As explained above, advancing element 312 of implant 304 extends substantially outside implant 304 before expansion as shown in Figure 15B. Ex. 1013, Fig. 15B; Ex. 2039 ¶ 137. By contrast, instrument 700 has driver 708 positioned between holding arms 716 and extends within implant 484 while the arms engage it. Ex. 1013, Figs. 38, 41, 46–47D. Petitioner does not explain how that trident-like arrangement could simultaneously engage the externally extending advancing element 312 while also positioning holding arms 716 to reach and engage the hypothetical recesses on implant 304.

It would not. Because advancing element 312 initially projects outside of implant 304, driver 708 of instrument 700, if “equally applie[d]” to implant 304, would need to engage with advancing element 312 at a location outside of implant 304. Assuming the opening for the expansion member of implant 304 is at the same location and orientation as in implant 484—which Petitioner has not shown—the engagement of driver 708 with advancing element 312 at the external location would prevent holding arms 716 from reaching the hypothetical recesses Petitioner

suggests positioning on implant 304 in the same relative configuration as recesses 733 of implant 484 in Figure 38. Pet. 34. The Petition never addresses this incompatibility. Ex. 2039 ¶¶ 136-137.

Petitioner's theory depends on the deficiencies already discussed: implant 304 must first be given recesses 733 that Gordon never discloses for that implant. Petitioner neither establishes where those recesses would be placed nor shows that their placement would align instrument 700 with implant 304's distinct expansion mechanism. Gordon therefore does not disclose the claimed arrangement, and Petitioner's proposed modification does not establish a motivation to pursue that arrangement or a reasonable expectation of success in doing so. Ex. 2039 ¶ 138.

Accordingly, Petitioner has not shown that Gordon anticipates or renders obvious independent claims 9 and 18, or their dependent claims, including claims 10–12, 14–17, and 20. Ex. 2039 ¶ 139.

F. Gordon Fails to Teach or Suggest Claim 10.

Claim 10 depends from claim 9 and further requires that the first and second tool-engagement portions are recessed surfaces positioned “at or near the implant proximal end,” and that “the screw head of the adjusting screw is accessible at the implant proximal end from a proximal direction.” To satisfy these requirements, Petitioner points to Figure 38, but that figure does not show recesses 733 “at or near” the proximal end. Rather, the visible recess 733 is positioned substantially inward

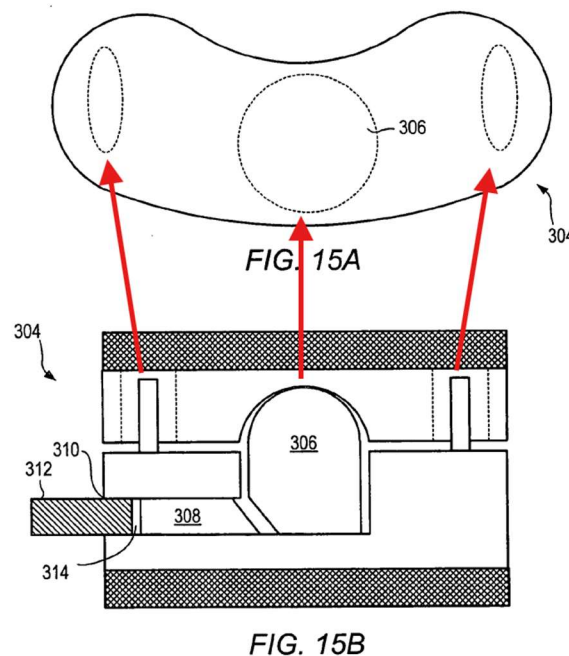
from the proximal end through which driver 708 approaches the implant and approximately midway along the corresponding side of implant 484. Ex. 1013, Fig. 38. Gordon never describes recesses 733 as being “at or near” the proximal end, and Petitioner offers no analysis establishing that the hindsight-driven combination on which it relies would involve recesses at or near the proximal end of the implant. Instead, Petitioner merely draws a line to the middle of Gordon’s implant, adds a “proximal end” label, and declares the requirement satisfied. But Petitioner’s annotation is not a disclosure by Gordon, and the location depicted in Figure 38 contradicts Petitioner’s characterization. Ex. 2039 ¶ 143.

Nor does Petitioner argue a POSA would have relocated recesses 733 from their disclosed position in Figure 38 to a position at or near the proximal end of implant 304, or how doing so would affect the alignment among the recesses, holding arms 716, and driver 708. Ex. 2039 ¶ 141. That omission is particularly significant because Gordon explains that the location of recesses 733 may be selected based on the surgical approach and the location of the implant’s expansion member. Ex. 1013 ¶ 237. And the structure and location of the recesses would impact the structural integrity of the implant. Ex. 2039 ¶¶ 97, 105, 120, 199. Accordingly, Gordon does not anticipate or render obvious claim 10. Ex. 2039 ¶ 143.

G. Gordon Fails to Teach or Suggest Claim 14.

Claim 14 requires the first and second expandable spinal implant structures to each include a through-hole sized to permit placement of bone material. Gordon does not disclose through-holes in implant 304.

Petitioner incorrectly identifies dashed ellipses in Figure 15A as openings in the upper structure and then assumes “similar openings” would exist in the lower structure. Pet. 39-40; Ex. 2039 ¶ 154. But Gordon does not identify the dashed ellipses as openings, assign them reference numbers, or describe them as receiving bone material. Figure 15A instead uses dashed lines to depict the outlines of structures beneath the visible surface, including insert 306 and guide pins that hold the upper and lower bodies in union. Ex. 1013 ¶ 177, Fig. 15A; Ex. 2039 ¶¶ 155-156.

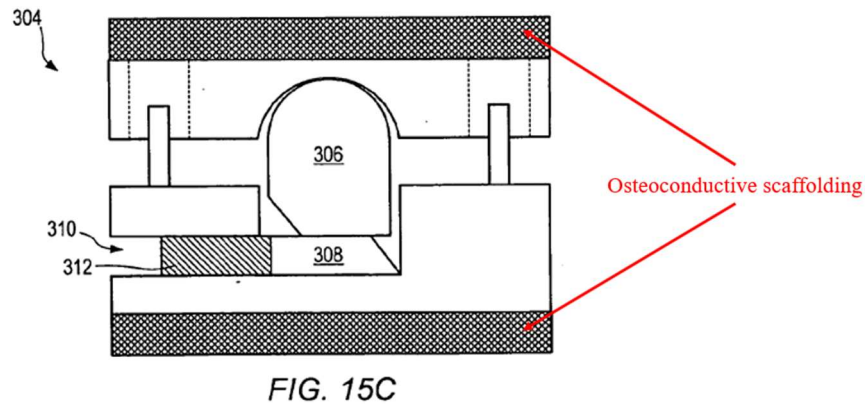


Ex. 1013, Figs. 15A-15B (Annotated)

Confirming this understanding, the cross-sectional views of implant 304 do not depict any through-holes in either the upper or lower implant structures. Ex. 1013, Figs. 15B–15C; Ex. 2039 ¶¶ 157-158. Petitioner’s incorrect annotations and assumptions cannot establish anticipation.

Gordon’s general statement that implants “may include one or more openings” for bone graft or ingrowth does not cure the deficiency. Ex. 1013 ¶ 138. It does not state that implant 304 includes such openings or disclose the specific arrangement of through-holes in both expandable structures required by claim 14. Petitioner’s reliance on paragraph 196 similarly concerns a different implant 422, not implant 304. Petitioner therefore fails to prove anticipation. Ex. 2039 ¶¶ 159-160.

Nor does Petitioner establish obviousness. A general desire to promote fusion does not explain why a POSA would add the claimed through-holes to both structures of implant 304, particularly when Gordon identifies other means of promoting integration, such as osteoconductive scaffolding which implant 304 is depicted as including on both surfaces. Ex. 1013 ¶¶ 138, 146, Fig. 15C.



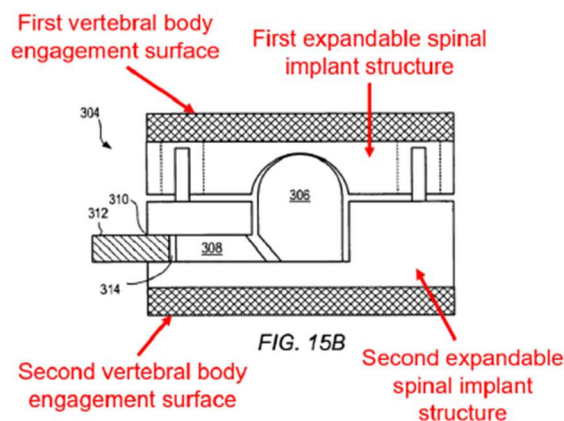
Ex. 1013, Fig. 15C (Annotated)

Dr. Gall explains that a POSA would not have included both the claimed bone-material through-holes and the osteoconductive scaffolding that Petitioner itself identifies as the claimed vertebral body engagement surfaces for claim 9. Ex. 2039 ¶¶ 161-165. As Petitioner maps the combination, the scaffolding would cover any such openings and prevent placement of bone material through them. *Id.* ¶ 165. Petitioner neither acknowledges that incompatibility nor proposes removing or modifying the scaffolding to leave the asserted through-holes accessible. Petitioner therefore provides neither a reason to select the claimed through-hole configuration nor a workable explanation for incorporating it into implant 304. *Id.* ¶ 166.

Gordon neither anticipates nor renders obvious claim 14. *Id.* ¶ 167.

H. Gordon Fails to Teach or Suggest Claim 15.

Claim 15 depends from claim 9 and requires each expandable spinal implant structure to be a “single integral structure.” Petitioner’s claim 15 theory conflicts with its own mapping of claim 9. *Id.* ¶ 168. For claim 9, Petitioner identifies the upper and lower portions of implant 304 as the expandable spinal implant structures and expressly identifies the osteoconductive scaffolding on those portions as the claimed vertebral body engagement surfaces:



Pet. 25–26; Ex. 2039 ¶ 169. Per claim 9, Petitioner must therefore establish that the implant structures defining those scaffolding engagement surfaces are each single and integral.

Gordon confirms otherwise. It states that the surfaces of its implant bodies “may include (e.g., be coupled to) osteoconductive scaffolding.” Ex. 1013 ¶ 146; see *id.* ¶¶ 165–166, 176, Figs. 2A-2B, 9B-9E, 10A, 12A-12B; Ex. 2039 ¶ 170. Consistent with how a POSA would understand that language, Gordon expressly distinguishes a component being “coupled to” a member from being “an integral part” of that member. Ex. 1013 ¶ 175 (identifying a first option in which the cam

portion is “coupled to” a member and a second option in which the cam portion is “an integral part” of the member); Ex. 2039 ¶ 173.

Petitioner cannot simultaneously rely on separately coupled scaffolding to satisfy claim 9’s engagement surfaces and disregard that separate structure when asserting that the same expandable spinal implant structure is “single” and “integral” under claim 15. Petitioner’s mapping thus presents an unresolvable dilemma. If each claimed implant structure consists only of the unitary implant body, Gordon does not define the external scaffolding surface that Petitioner identifies as the claimed vertebral body engagement surface. If the separately coupled scaffolding is included as part of the claimed implant structure, that structure is not “single” and “integral.” Gordon’s general statement that an implant body may be unitary does not resolve that inconsistency. Pet. 24-26; Ex. 2039 ¶¶ 171-172. Gordon therefore does not disclose claim 15 under Petitioner’s own mapping. And because Petitioner presents no separate obviousness theory for claim 15, Ground 1 fails to render claim 15 anticipated or obvious. Ex. 2039 ¶¶ 174-175.

I. Gordon Fails to Teach or Suggest Claim 17.

Claim 17 is a method of using the system of claim 9 and requires “extending the second adjusting tool through the first tool to engage the adjusting screw.” Gordon does not disclose such a method. Ex. 2039 ¶ 176. Petitioner instead points to possible axial extension of a driver 708, which is permanently assembled within

instrument 700, and treats extension of that the driver shaft movement as the claimed act of extending a second adjusting tool through the first tool. Pet. 44.

As an initial matter, Petitioner’s argument fails for the same reasons discussed with respect to limitation 9[c]. Gordon does not teach or suggest a second tool, but instead teaches a single, permanently assembled tool. Ex. 2039 ¶¶ 178-180.

In addition, Gordon describes instrument 700 as a permanent assembly comprising outer shaft 706, driver 708, holding device 710, handle 712, and thumbwheel 714. Ex. 1013 ¶¶ 226–234; Ex. 2039 ¶¶ 78, 178–181. Driver 708 is coupled to thumbwheel 714, which resides within handle 712 and is only partially accessible through slot 732. Ex. 1013 ¶¶ 228–229, 234. Gordon never describes removing driver 708 from that assembly or extending it through outer shaft 706 during use.

Gordon’s statement that driver 708 may translate axially when threadably coupled to thumbwheel 714 does not satisfy the claim. *Id.* ¶ 229. In that embodiment, driver 708 remains a permanently installed component of instrument 700 and merely moves within the assembly when the thumbwheel is rotated. Translating an internal component already positioned within the instrument is not the claimed act of “extending the second adjusting tool through the first tool.” Petitioner’s contrary theory improperly eliminates the distinction between the two

tools and reads “extending...through” as encompassing any internal axial movement. Ex. 2039 ¶¶ 181–186.

Therefore, Gordon fails to anticipate claim 17. Ex. 2039 ¶¶ 177, 186-187. And because Petitioner offers no reason to modify Gordon’s permanent assembly to perform the claimed step, it also fails to establish obviousness. Ex. 2039 ¶¶ 177, 186–187.

J. Gordon Fails to Teach or Suggest Claim 20.

Claim 20 depends from claim 18 and adds numerous requirements, including proximal tool-engagement portions and screw access, openings extending to a cavity for introduction of grafting material, single integral expandable structures, and straight-sided engagement extensions in a specified engaged relationship with the implant and adjusting tool. Petitioner identifies no Gordon embodiment containing the claimed combination. Instead, it incorporates its analyses of other claims, each of which relies on different Gordon disclosures. Ex. 2039 ¶ 188. Claim 20 is not anticipated or rendered obvious at least based on the above-identified deficiencies in the arguments Petitioner incorporates.

As explained above, Petitioner starts with implant 304 for the expandable implant and expansion mechanism, but then supplements it with features selected elsewhere in Gordon: instrument 700 and recesses 733 disclosed with implant 484; the distal-end ridge arrangement of implant 422; general disclosures concerning

bone-graft openings; and other disclosures concerning allegedly unitary structures. The resulting device is not an embodiment Gordon discloses—it is an assembly constructed from selected features of different embodiments. Ex. 2039 ¶¶ 188-189. That is the antithesis of anticipation. *Net MoneyIN*, 545 F.3d at 1371.

The incorporated theories also carry forward all the deficiencies addressed above. Gordon does not disclose recesses 733 on implant 304 or establish their location or required relationship to advancing element 312; does not disclose the claimed bone-material openings in Figures 15A–15C; and, under Petitioner’s own mapping of osteoconductive scaffolding as the engagement surfaces, does not disclose the claimed single integral structures. Ex. 2039 ¶¶ 189-196. Nor does Gordon disclose the required simultaneous engagement between instrument 700 and implant 304. Petitioner cannot cure these individual deficiencies simply by incorporating its earlier analysis into its claim 20 analysis. *Id.* ¶¶ 197-198.

Nor does Petitioner establish obviousness. Claim 20 is not merely a collection of independent features that can be added to implant 304 without consequence. Recesses and through-holes alter the implant structure; recess structure and placement affect instrument engagement and driver alignment; the internal expansion mechanism constrains available space and access; and the claimed surface and integral-structure requirements further constrain the implant’s construction. Those requirements are interdependent, yet Petitioner addresses them only in

isolation. Petitioner provides no integrated analysis explaining how all of its proposed modifications would coexist with implant 304's insert 306, expansion member 308, advancing element 312, and opening 310 while preserving the required implant and tool functions. Ex. 2039 ¶¶ 199-200. Nor does it explain why a POSA would have selected this particular collection and arrangement of features from Gordon's different embodiments.

Gordon knew how to state when a feature could be applied across embodiments. Ex. 2039 ¶ 201. But Gordon does not similarly describe the disparate features Petitioner selects for claim 20 as a coordinated set applicable to implant 304. Although an express instruction from Gordon is not required, Petitioner must still provide a reasoned, non-hindsight explanation for selecting and arranging those features in the particular combination claimed. It does not. Petitioner's analysis improperly uses Gordon as a menu of parts and the challenged claim as the blueprint for selecting and arranging them. *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988). Gordon therefore neither anticipates nor renders obvious claim 20. Ex. 2039 ¶ 202.

VII. GROUND 2: MCLUEN IN VIEW OF GORDON FAILS TO RENDER OBVIOUS CLAIMS 9-12, 14-18, AND 20.

Ground 2 combines McLuen's implant 1500 with Gordon's instrument 700. But Petitioner neither establishes why a POSA would have replaced McLuen's contemplated channel-fitting tool with Gordon's materially different holder nor

shows that the resulting hybrid would work or satisfy the claimed implant-and-tool relationships. Ex. 2039 ¶ 203.

A. Petitioner Fails to Establish a Motivation to Combine McLuen and Gordon.

1. McLuen already addresses the screwdriver-slippage problem on which Petitioner relies.

Petitioner begins from the premise that McLuen “does not illustrate its complete tool assembly for securing and expanding the implant.” Pet. 53–54. The absence of an illustration does not negate that disclosure or supply a reason to replace McLuen’s contemplated tool with Gordon’s materially different holder. Ex. 2039 ¶¶ 203-204, 206, 208. And McLuen describes the relevant tool interface. *Id.* It explains that a screwdriver turns positioning means 1508. Ex. 1012 ¶ 76. It also recognizes that screwdrivers may “slip out of place,” and resolves this problem by including channels 1522 to secure the tool:

Screw drivers unfortunately have the ability to slip out of place. When performing surgery near someone’s spine, it is preferable to prevent or at least minimize the slipping ability. To do so, channels 1522 are implemented to receive a tool (not shown). The tool (not shown) has attachments that fit within the channels 1522 to secure the tool (not shown) in place.

Id.; Ex. 2039 ¶¶ 205, 207.

Thus, McLuen does not disclose an implant awaiting some unidentified solution to screwdriver slippage. It discloses both the problem and its solution: a

securing tool having attachments that fit within channels specifically provided in the implant. Petitioner never explains why that arrangement was inadequate.

Petitioner nevertheless asserts that a POSA would have selected Gordon's holding device because it would secure McLuen's implant while the screw was turned. Pet. 55–56; Ex. 1002 ¶ 71². That assertion merely attributes to Gordon the same general function McLuen already assigns to its own securing tool. It does not explain why a POSA would replace McLuen's channel-fitting attachments with Gordon's external arms 716 with inwardly projecting lobes 722.

Nor does McLuen suggest that its securing tool must be removed before positioning means 1508 is operated. To the contrary, McLuen introduces the securing tool in the same discussion explaining the need to prevent screwdriver slippage. Ex. 1012 ¶ 76. Petitioner's assertion that removal of the holding tool would leave the surgeon struggling to “find the screw” therefore rests on an unsupported premise. *See* Pet. 56; Ex. 1002 ¶ 72. McLuen already contemplates securing device 1500 through channels 1522 while the surgeon operates positioning means 1508.

² Petitioner's expert repeats Petitioner's motivation to combine word-for-word without adding supporting technical analysis and therefore is entitled to little weight. *Compare* Pet. 54-58 with Ex. 1002, ¶¶ 69-74.

2. Petitioner identifies no reason a POSA would replace McLuen's channel-fitting tool with Gordon's materially different holder.

A POSA would not have modified McLuen merely because another implant holder existed. Petitioner must provide a reasoned explanation why a POSA would have selected Gordon's particular holder for McLuen's implant. Petitioner provides none.

The Petition relies on three asserted advantages: reducing screwdriver slippage, using one assembly for insertion and expansion, and maintaining alignment with the adjusting screw. Pet. 55–56; Ex. 1002 ¶¶ 71–72. But McLuen already addresses the underlying slippage and alignment concerns by providing channels 1522 specifically so that a securing tool remains engaged with implant 1500 while the surgeon operates positioning means 1508. Ex. 1012 ¶¶ 76, 78. Indeed, McLuen expressly states that channels 1522 secure the device “while turning the positioning means 1508.” *Id.* ¶ 78. That simultaneous engagement necessarily follows from McLuen's stated purpose: a securing tool that was removed before the screwdriver operated could not “prevent or at least minimize” screwdriver slippage. *Id.*; Ex. 2039 ¶¶ 204–207. McLuen therefore contemplates coordinated operation of the channel-engaging holder and driver, whether as separate instruments or as components of a common tool. It is unnecessary to determine whether those components form one integrated assembly; the relevant point is that the holder

remains engaged during screw operation to perform the anti-slippage function McLuen expressly assigns to it. Nothing in McLuen suggests that the holder must be removed before expansion, thereby disrupting the surgical opening or requiring the surgeon to relocate positioning means 1508, and Petitioner identifies no problem in McLuen for which Gordon's holder supplied an improvement.

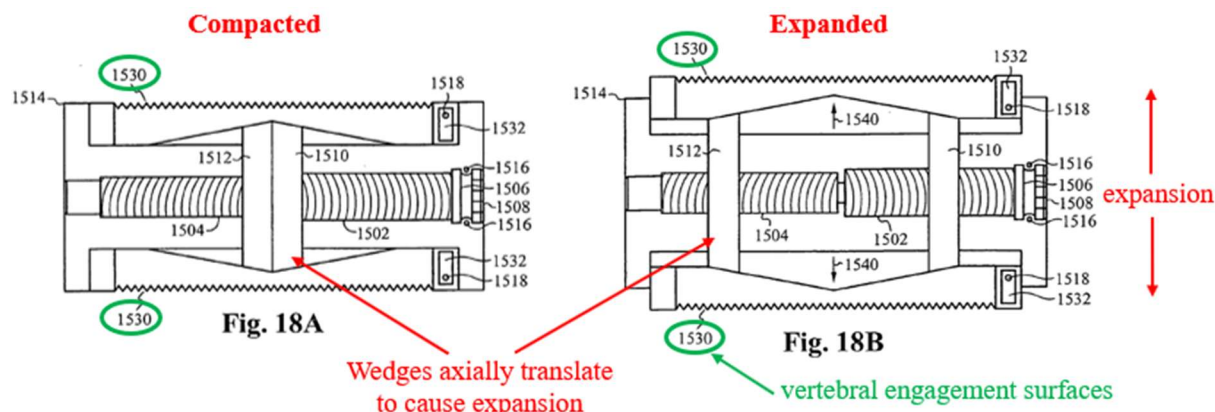
Petitioner also fails to show that Gordon's holder would provide the asserted advantages when applied to McLuen. Gordon's projecting lobes 722 are localized projections configured to engage "complementary surfaces (e.g., notches, grooves)" on an implant. Ex. 1013 ¶¶ 231, 237, Fig. 38 (showing recesses 733); Ex. 2039 ¶ 210. McLuen's channels 1522 do not contain complementary lobe-receiving recesses. As Dr. Gall explains, placing Gordon's localized lobes against McLuen's elongated channel surfaces would provide contact only along the relatively narrow axial extent of the lobes, rather than the fitting engagement along channels 1522 that McLuen contemplates. Ex. 2039 ¶¶ 211-212. That limited contact would provide minimal resistance to the reaction torque generated when positioning means 1508 is turned and would permit relative movement between the implant and holder. *Id.* Petitioner thus fails to show that substituting Gordon's holder would improve upon—or even preserve—the secure engagement McLuen already contemplated and fails to establish a motivation to substitute the McLuen tool with Gordon's. Petitioner therefore fails to establish that a POSA would have been motivated to

replace McLuen's channel-fitting tool with Gordon's materially different arm-and-lobe arrangement.

3. Petitioner's asserted structural similarities do not supply the missing motivation.

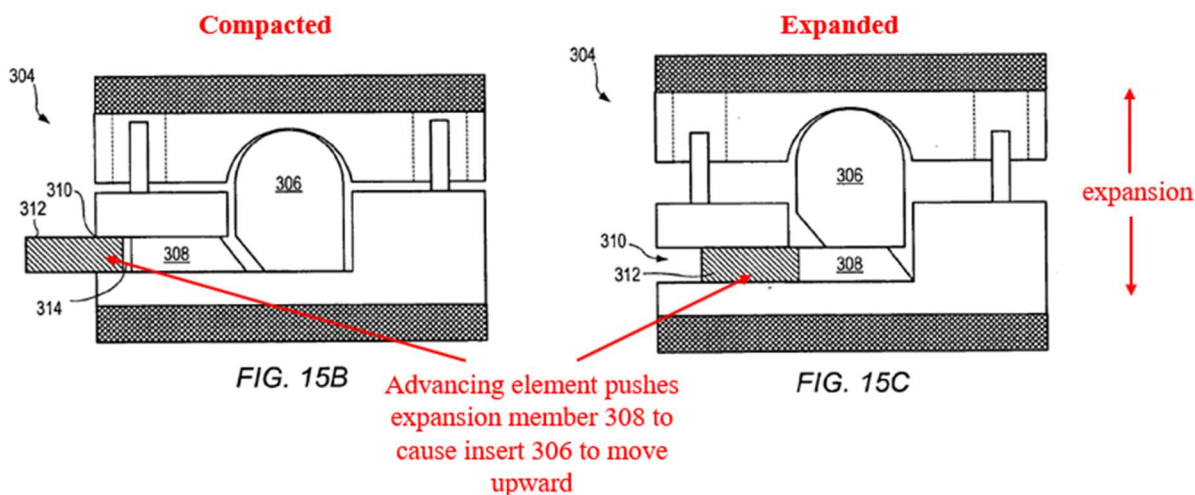
Petitioner also relies on supposed "structural similarities" between the references insofar as they both describe implants that expand through operation of a screw, and characterizes McLuen's channels 1522 as similar to Gordon's recesses 733. Pet. 54–55. Those generalities do not establish a reason to combine the structures at issue.

First, describing both devices as screw-expanded implants ignores their materially different mechanisms. McLuen's positioning means 1508 spins in place, causing extending blocks 1510 and 1512 to travel outward along respective screws and push tabs 1530 outward. Ex. 1012 ¶¶ 74–75, 79–81, Figs. 18A, 18B; Ex. 2039 ¶ 215.



Ex. 1012, Figs. 18A–18B (annotated)

Gordon's implant 304, by contrast, expands through axial advancement of advancing element 312 and expansion member 308. Ex. 1013 ¶ 177; Ex. 2039 ¶ 216.

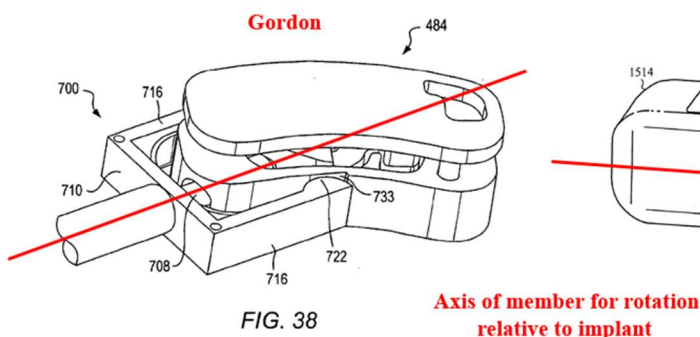


Ex. 1013, Figs. 15B-15C (annotated)

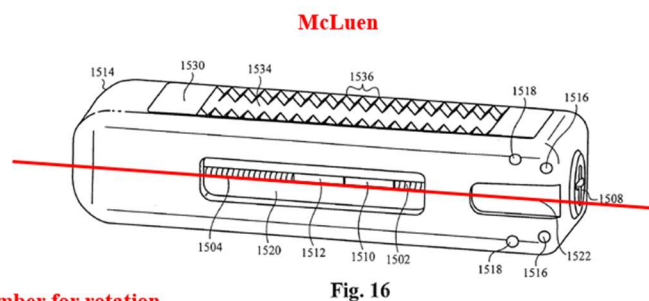
Petitioner does not explain why a tool configured for Gordon's operating mechanism would have been selected for McLuen's materially different mechanism. Ex. 2039 ¶ 217-219.

Second, McLuen's channels are not structurally equivalent to Gordon's recesses. Gordon's protruding lobes are designed to engage complementary localized recesses. Ex. 1013 ¶¶ 231, 237. McLuen instead describes a tool with attachments that insert into elongated channels 1522. Ex. 1012 ¶ 76; Ex. 2039 ¶ 210. Petitioner provides no analysis demonstrating that Gordon's lobes fit those channels. And the lobed protrusions would make the Gordon holder particularly ill-suited for engagement with flat channels because they would minimize contact with the implant. Ex. 2039 ¶¶ 211-214.

Third, the alleged similarity of the screw locations does not show that engaging Gordon's lobes with McLuen's channels would align Gordon's coaxial driver with positioning means 1508. The channel engagement fixes the position and orientation of the holder. Petitioner does not analyze the channels' position relative to the screw axis or show that the resulting holder axis would coincide with positioning means 1508. McLuen's implant has channels on the sides of an implant having the shape of a rectangular prism, with the screw directly in line with the longitudinal axis of the implant and the head of the screw lying immediately proximal to channels 1522. Ex. 1012 Figs. 15–16. By contrast, the Gordon tool is shown to establish a materially different relationship among the recesses for engaging the holder and the angular relationship of the holder/driver and the implant by Gordon in Figures 38, 41, and 47A–D. The Gordon figures on which Petitioner relies show the holder engaged with the implant at an angular orientation rather than the straight-in-line orientation shown for the McLuen implant and holder design.



Ex. 1013, Fig. 38



Ex. 1012, Fig. 16

In addition, as shown above, the arms of the Gordon tool extend along the exterior of implant 484 before engaging recesses located substantially inward from its end. The resulting relationship between Gordon's driver and recesses materially differs from McLuen's arrangement, in which the head of positioning means 1508 lies immediately proximal to channels 1522. Petitioner does not consider these differences.

Petitioner's proposed combination also ignores the incompatible operation of the identified Gordon and McLuen expansion mechanisms. Petitioner specifically relies on Gordon's tool as configured to engage and operate screw 312 of implant 304. Pet. 34. Screw 312 is an "advancing element" that advances axially through opening 310 and pushes expansion member 308 into implant 304. Ex. 1013, Figs. 15B-15C. Thus, driver 708 of Gordon's tool must translate along its axis when thumbwheel 714 is rotated in order to continue rotating screw 312 as it advances into the implant. *Id.*; *see also* Pet. 55-57 (referring to Gordon's "advancing" driver head); Ex. 2039 ¶¶ 216, 218.

McLuen's positioning means 1508 operates differently. It rotates while remaining axially fixed relative to implant 1500 (i.e. spins in place), with the rotation causing extending blocks 1510 and 1512 to travel outward along their respective screws. Ex. 1012 ¶¶ 74-75, 79-81, Figs. 18A, 18B; Ex. 2039 ¶¶ 215-216. Petitioner never explains how Gordon's axially advancing driver would operate McLuen's

axially fixed positioning means while Gordon's holding arms remain engaged with channels 1522. Once the advancing driver engages positioning means 1508, further axial advancement would impose a separating force between the holder and the implant, which would cause Gordon's localized lobes to slide out of McLuen's longitudinal channels. Ex. 2039 ¶¶ 216-219.

Petitioner's asserted similarities are mere generalized descriptions: both references concern spinal implants, screws, and tools that hold implants. That does not explain why a POSA would have selected Gordon's specific lobed holder for McLuen's specific channel geometry. Ex. 2039 ¶ 220. It instead reflects Petitioner's use of the claims as a blueprint.

4. Petitioner's alleged motivations depend on a combination it has not shown would work.

Each of Petitioner's asserted motivations presupposes the successful mechanical cooperation that Petitioner never establishes. Preventing slippage presupposes that lobes 722 securely engage channels 1522. Maintaining alignment presupposes that such engagement places driver 708 at the correct distance and on the axis of positioning means 1508, and that the appropriate geometries exist for coordinated mating of the lobes with the channels and the driver with the screw head. Using one tool for insertion and expansion presupposes that the interface remains secure under insertion forces, reaction torque, and the axial forces created during driver operation.

Petitioner supplies no analysis establishing those predicates. Ex. 2039 ¶¶ 212–215. Instead, it juxtaposes separate figures and declares the components compatible. Pet. 57. Because Petitioner has not shown that Gordon’s tool would deliver the benefits it invokes when used with McLuen, those assumed benefits cannot supply the missing motivation. Ex. 2039 ¶ 220. Ground 2 reflects hindsight, not a reasoned path supplied by the prior art.

B. Petitioner Fails to Establish a Reasonable Expectation of Success.

The same incompatibilities that undermine Petitioner’s asserted motivation also defeat its reasonable-expectation showing. As explained above, Petitioner does not establish that Gordon’s localized lobes 722 would fit securely within McLuen’s elongated channels 1522, that the resulting engagement would align Gordon’s coaxial driver 708 with McLuen’s positioning means 1508, or that the identified Gordon driver configuration could operate McLuen’s axially fixed positioning means without displacing the holder. Ex. 2039 ¶¶ 209-219. Petitioner’s reasonable-expectation analysis does not address those issues. It simply declares the separately disclosed components compatible. Pet. 56–57.

1. Petitioner does not identify a working configuration of the proposed combination.

Petitioner asserts that Gordon’s arms “are shaped such that they would engage” McLuen’s channels and that Gordon’s driver head would engage McLuen’s positioning means. *Id.* But Petitioner never depicts or describes the resulting

assembly. Its annotated figures merely place separate views of McLuen's implant and Gordon's instrument beside one another; they do not show Gordon's arms positioned around device 1500, lobes 722 seated within channels 1522, or driver 708 aligned with positioning means 1508 before and during expansion of the implant.

2. Petitioner does not identify or analyze the adaptations required to make the combination work.

The proposed combination raises implant-specific design questions concerning arm spacing, lobe dimensions and orientation, channel geometry, engagement depth, clamping force, driver length and diameter, outer-shaft clearance, driver-head geometry, and the positions of the channels and screw relative to the holder axis. Ex. 2039 ¶¶ 213-214. Petitioner does not determine whether any of those features are already compatible or identify which components would need to be altered.

Petitioner addresses only the shape of driver head 726, asserting in a footnote that a POSA could make any necessary "minor modifications" for engagement with McLuen's screw head. Pet. 57 n.11; Ex. 1002 n.5. That footnote neither identifies the required modification nor addresses the more fundamental holder-to-implant and holder-to-screw relationships. Petitioner cannot establish a reasonable expectation of success by assuming all necessary geometrical and operational adaptations would have been routine while identifying none of them.

3. Culbert’s conclusory opinion does not supply the missing analysis.

Culbert’s declaration adds no meaningful technical support. Paragraph 73 states that Gordon’s arms are shaped to engage McLuen’s channels, Gordon’s driver would engage McLuen’s screw, and any necessary driver-head modifications would have been minor. Ex. 1002 ¶ 73, n.5. But Culbert does not explain the basis for those conclusions. He does not:

- Consider the geometry or dimensions of lobes 722 and channels 1522;
- Analyze the extent or security of their engagement;
- Analyze the reaction forces generated when positioning means 1508 is turned;
- Compare the holder axis established by Gordon’s arms with McLuen’s screw axis;
- Identify the final configuration of the combined assembly; or
- Identify the modifications required to achieve that configuration

Calling the components “apparently cooperative” merely restates Petitioner’s conclusion. Ex. 1002 ¶ 73. It does not resolve the specific incompatibilities demonstrated above or establish that Gordon’s holder would remain engaged and aligned while its driver operated McLuen’s implant.

Accordingly, even if Petitioner had established a reason to select Gordon’s instrument, it independently fails to show that a POSA would have reasonably expected the proposed combination to achieve the claimed result. Ex. 2039 ¶ 219.

C. McLuen-Gordon Fails to Teach or Suggest the Claimed Second Adjusting Tool Required by Claims 9 and 18

Ground 2 relies exclusively on Gordon for limitations 9[a]–9[d], including the requirement for “a second adjusting tool” having its own proximal end and “a second handle positioned at the second proximal end.” Pet. 58 (incorporating Petitioner’s Ground 1 analysis). As explained for Ground 1, Gordon’s holder and driver assembly is a single instrument comprising outer shaft 706, driver 708, holding device 710, handle 712, and thumbwheel 714. Ex. 1013 ¶¶ 227–235, Figs. 35–38. Because the McLuen–Gordon combination does not teach or suggest the distinct “second adjusting tool” and “second handle” required by limitation 9[c], Ground 2 fails as to claim 9 and the claims depending from it. Ex. 2039 ¶ 221.

Claim 18 does not require a second handle as recited in claim 9, but it separately requires “a second adjusting tool” having its own proximal and distal ends, screw-engagement portion, and shaft. Petitioner again relies exclusively on Gordon’s driver 708, which Gordon describes as a component contained within and operated as part of instrument 700. Pet. 74 (incorporating Ground 1 and claim 9 analyses). McLuen does not transform that integrated component into a second tool, and Petitioner proposes no modification that would do so. The combination therefore also fails to establish limitations 18[c]–18[d]. Thus, Ground 2 fails to render claims 9, 18, and their dependents obvious. Ex. 2039 ¶ 221.

D. McLuen-Gordon Fails to Teach or Suggest the Tool-Engagement Portions Required by Limitations 9[h], 18[h], and 18[j]

Limitation 9[h] requires the expandable implant to define “first and second tool engagement portions sized, shaped, and configured for receiving the first and second engagement prongs of the first tool.” Petitioner identifies McLuen’s channels 1522 as the claimed tool-engagement portions and Gordon’s holding arms 716 as the claimed engagement prongs. Pet. 62–63. But McLuen’s channels are not sized, shaped, or configured to receive Gordon’s asserted engagement prongs—holding arms 716 terminating in localized projecting lobes 722. Ex. 2039 ¶ 222.

McLuen states that channels 1522 receive a tool having “attachments that fit within the channels 1522 to secure the tool . . . in place.” Ex. 1012 ¶ 76. That disclosure establishes that channels 1522 are configured for McLuen’s contemplated fitting attachments. It does not establish that the channels are configured to receive Gordon’s materially different holding arms 716 that terminate in localized inwardly projecting lobes 722 designed to engage “complementary surfaces (e.g., notches, grooves)” on an implant. Ex. 1013 ¶¶ 231, 237, Fig. 38. In the configuration Petitioner cites, lobes 722 seat within localized recesses 733 on implant 484. *Id.*; Ex. 2039 ¶ 223. McLuen’s elongated channels 1522 contain no corresponding localized recesses complementary to lobes 722. Ex. 1012, Figs. 15–16; Ex. 2039 ¶ 224.

As Dr. Gall explains, McLuen describes a keyed engagement interface: projecting tool features are dimensioned and positioned to fit within corresponding channels 1522. Ex. 2039 ¶ 206. Gordon’s localized rounded lobes, which are designed to seat within complementary localized recesses, do not provide that fitting relationship with McLuen’s straight, elongated channels. *Id.*; Ex. 1013 Figs. 36, 38; Ex. 1012 Figs. 15–16; Ex. 2039 ¶¶ 211, 224–225. Consequently, placing Gordon’s lobes within McLuen’s channels would produce only limited contact along the relatively narrow axial extent of the lobes, not the fitting engagement along channels 1522 contemplated by McLuen. Ex. 2039 ¶¶ 211–212.

Petitioner does not show otherwise. It contends that McLuen’s channels are configured to receive Gordon’s lobes because Gordon’s arms can engage “complementary surfaces, like channels 1522.” Pet. 62–63. But Gordon’s localized recesses and McLuen’s elongated channels are not structurally interchangeable merely because both interact with a tool. At most, Petitioner asserts that Gordon’s localized lobes could make incidental contact with portions of channels 1522. It does not show that this limited contact constitutes receipt of Gordon’s asserted prongs by engagement portions sized, shaped, and configured for that purpose. Ex. 2039 ¶¶ 225–226.

Culbert’s deposition testimony confirms the deficiency. Although his declaration asserted that Gordon’s arms already “are shaped such that they would

engage” channels 1522, Culbert subsequently acknowledged that the arms would “need to be designed to fit with McLuen’s implant.” *Compare* Ex. 1002 ¶ 73 with Ex. 2039 at 101:6–17. Yet the Petition proposes no such redesign of Gordon’s arms or McLuen’s channels. Its only express modification concerns the shape of driver head 726. Pet. 57, n.11.

The same deficiency applies to limitations 18[h] and 18[j]. Limitation 18[h] requires the implant’s tool-engagement portions to be “sized, shaped, and configured for engaging with the gripper of the first tool.” Limitation 18[j] further requires an engagement extension of that gripper to be positioned within an engagement portion indented into an implant side surface. Petitioner identifies Gordon’s holding device 710 as the gripper, arms 716 as its engagement extensions, and McLuen’s channels 1522 as the engagement portions. Pet. 74–75.

McLuen’s channels may be indented into the implant’s side surfaces, but that does not establish the claimed relationship with Gordon’s gripper. As explained above, channels 1522 are configured for McLuen’s fitting attachments, not Gordon’s materially different arms with localized lobes. Petitioner does not show that arms with lobes 722 fit within the channels or that Gordon’s gripper thereby engages McLuen’s implant in the proposed combination. Identifying a side-surface indentation does not satisfy limitations 18[h] and 18[j].

Because the proposed combination does not teach or suggest the tool-engagement portions required by limitation 9[h], 18[h], and 18[j], Ground 2 fails as to claims 9, 18, and their dependents. Ex. 2039 ¶ 226.

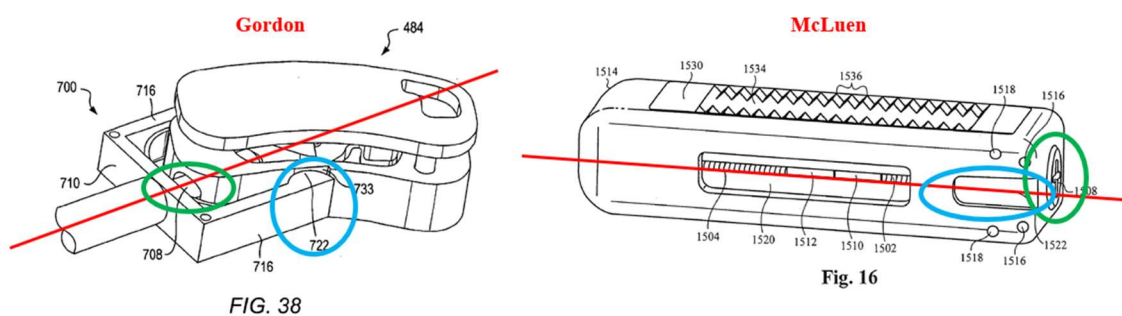
E. McLuen-Gordon Fails to Teach or Suggest the Simultaneous Engagement Required by Limitations 9[j] and 18[i]

Limitation 9[j] requires the adjusting screw to occupy a location within the implant such that the second adjusting tool can extend through the first tool and engage the screw head “while the first and second engagement prongs of the first tool are engaged with the first and second tool engagement portions” of the implant. Petitioner therefore must establish more than the separate existence of McLuen’s positioning means 1508 and Gordon’s coaxial driver 708. It must show that engagement of Gordon’s arms with McLuen’s channels positions Gordon’s driver to engage positioning means 1508 while both arms remain engaged.

Limitation 18[i] imposes the same material requirement: the second adjusting tool must engage the adjusting screw while one or more engagement extensions remain engaged with the implant’s tool-engagement portions. Petitioner incorporates its claim 9 analysis rather than providing a separate demonstration of that configuration. Pet. 74–75. Accordingly, the same unproven geometrical relationship—secure gripper engagement producing alignment between Gordon’s coaxial driver and McLuen’s positioning means—is necessary for both claims.

Petitioner does not establish that relationship. The engagement of the lobes 722 on Gordon's arms with the channels of McLuen's implant fixes the position and orientation of Gordon's holder and therefore fixes the location of driver head 726 and the axis along which driver 708 extends. Petitioner does not compare the location of McLuen's channels and positioning means 1508 with the location of Gordon's lobes and the head of driver 708.

The cited figures underscore the missing analysis. In McLuen, positioning means 1508 extends parallel to the sides of generally rectangular implant 1500, with its head immediately proximal to channels 1522. Ex. 1012, Figs. 15–16. In Gordon's cited Figure 38 configuration, arms 716 extend along the exterior of arcuate implant 484 before lobes 722 engage localized recesses 733, and do so at an angular orientation rather than the inline orientation shown in McLuen. Ex. 1013, Fig. 38.



Petitioner does not explain how Gordon's holder geometry would place driver head 726 at positioning means 1508.

Petitioner also fails to show that Gordon's arms would remain engaged while the screw is operated. As explained above, Gordon's localized lobes lack complementary retaining recesses in McLuen's longitudinal channels and would provide only limited contact with the channel surfaces. Petitioner nevertheless assumes that the lobes would remain seated while positioning means 1508 is turned and reaction torque is transmitted through the interface. It provides no analysis supporting that assumption. Ex. 2039 ¶¶ 227-229.

The different expansion mechanisms of Gordon and McLuen create an additional problem. Petitioner specifically relies on Gordon's tool as configured to operate axially advancing element 312 of implant 304. Pet. 34. McLuen's positioning means 1508, by contrast, rotates while remaining axially fixed relative to implant 1500. Ex. 1012 ¶¶ 74-75, 79-81. As Dr. Gall explains, application of Gordon's advancing-driver configuration to McLuen's fixed positioning means would impose a separating force between the holder and implant, tending to slide Gordon's localized lobes out of McLuen's longitudinal channels. Ex. 2039 ¶¶ 215-219, 230-231. Petitioner neither acknowledges that operational difference nor explains how the asserted engagement would be maintained.

Petitioner's conclusory statement that Gordon's driver "extends through" its holder to engage McLuen's screw while Gordon's arms engage McLuen's channels merely repeats the claim language. Pet. 64-65. The cited references do not disclose

that combined arrangement, and Culbert provides no analysis demonstrating it. Because Petitioner fails to show the claimed simultaneous prong engagement and screw-head access, Ground 2 does not render obvious claims 9, 18, or the claims that depend thereon. Ex. 2039 ¶ 231.

F. McLuen-Gordon Fails to Teach or Suggest the Method Required by Claim 17

Claim 17 requires “extending the second adjusting tool through the first tool to engage the adjusting screw of the expandable spinal implant” and then expanding the implant by turning that screw. Petitioner relies exclusively on Gordon for this limitation. Pet. 73. For the reasons explained with respect to Ground 1, Gordon does not teach or suggest this claimed step, and Ground 2 therefore fails to establish the obviousness of claim 17. Ex. 2039 ¶¶ 233–234.

VIII. GROUND 3: GORDON IN VIEW OF MICHELSON FAILS TO RENDER OBVIOUS CLAIMS 9-12, 14-17.

A. Michelson Does Not Cure the Ground 1 Deficiencies Unrelated to Limitation 9[c] and Claim 17

Ground 3 relies on Michelson for a narrow purpose. Petitioner introduces Michelson’s expander driver 600 to supply the separate second adjusting tool and handle required by limitation 9[c], and the step of extending that tool through the first tool as required by claim 17. Pet. 79–85. Petitioner does not rely on Michelson to supply any other limitation. *Id.* 84–85 (explaining that replacing Gordon’s driver mechanism with Michelson’s expander driver “does not impact the reliance on

Gordon for the remaining limitations” of the challenged claims). Accordingly, Michelson does not cure the deficiencies identified in Ground 1, including those concerning limitations 9[h]–9[j] and claims 10, 14, and 15. Ex. 2039 ¶ 235, 249.

B. Petitioner Fails to Establish a Motivation to Replace Gordon’s Integrated Driver with Michelson’s Expander Driver

Petitioner proposes retaining Gordon’s outer shaft 706, holding device 710, and handle 712, while replacing Gordon’s driver 708 and thumbwheel 714—which are integrated within the handle and outer shaft as part of a single instrument—with Michelson’s separately insertable expander driver 600. Pet. 80–85; Ex. 2039 ¶ 236. Petitioner characterizes that change as “a simple substitution of one known element for another.” Pet. 83. But Gordon and Michelson disclose two materially different tool architectures: Gordon integrates its driver and control member into a single implant-holding instrument, while Michelson describes a two-part system with detailed, complementary structures designed to coordinate the operation of its separate driver with its implant holder. Petitioner identifies no technical reason that would have led a POSA to dismantle those disclosed arrangements and create the particular hybrid proposed in Ground 3.

1. Gordon already provides an integrated driver for installing and expanding an implant.

Gordon states that “a single instrument may be used to perform multiple steps of a spinal procedure” and then introduces instrument 700 as an instrument “for use

in installing and expanding an implant.” Ex. 1013 ¶¶ 226–227, Figs. 35–38; Ex. 2039 ¶ 237. Instrument 700 includes outer shaft 706, driver 708, holding arms 716, handle 712, and thumbwheel 714. Ex. 1013 ¶¶ 227–235, Figs. 35–38. Driver 708 and thumbwheel 714 provide the expansion function that Petitioner seeks to replace with Michelson’s driver.

Gordon’s driver is not placed loosely within the open shaft of a holder. Thumbwheel 714 is coupled to driver 708 and contained inside slot 732 of handle 712. *Id.* ¶¶ 228–229, 234–235, Figs. 35, 37. Gordon explains that handle 712

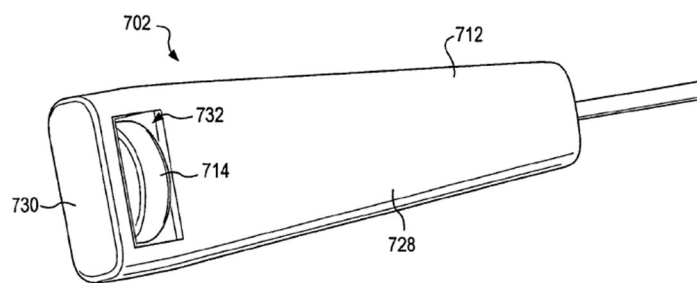


FIG. 37

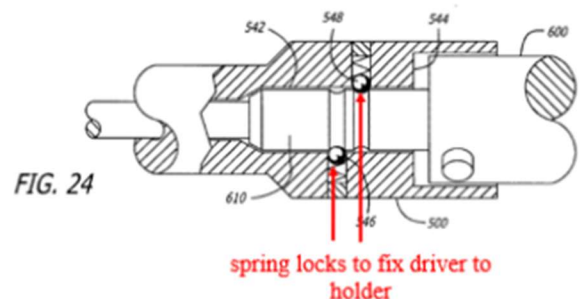
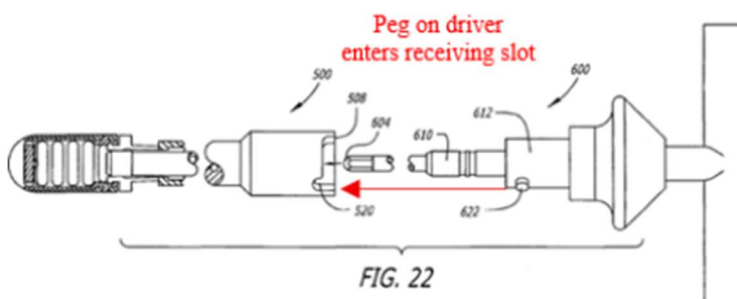
protects thumbwheel 714 and inner shaft 724 from damage while still permitting operation of the thumbwheel. *Id.* ¶ 235. The arrangement maintains a defined relationship among the driver, outer shaft, holding device, handle, and control member. Ex. 2039 ¶ 238.

Petitioner identifies no deficiency in that integrated arrangement. Nor does Gordon identify inadequate torque or control as a problem with thumbwheel 714. Petitioner asserts that separable components may facilitate manufacturing, maintenance, replacement, repair, cleaning, and sterilization. Pet. 82. But those

generic benefits do not explain why a POSA would select Michelson's particular driver—with detents, an enlarged portion, a shoulder, and a peg designed for Michelson's holder—while discarding the complementary structures that coordinate its operation. Nor do they establish that Michelson's driver would remain functional after being extracted from that system and placed within Gordon's instrument. *Id.*

2. Michelson's driver is part of a coordinated holder-and-driver system.

Michelson does not disclose expander driver 600 as a generic driver intended for use with arbitrary implant holders. Driver 600 is specially designed to cooperate with implant holder 500. It includes implant-holder engagement portion 610, distal and proximal detents 616 and 618, enlarged portion 612, shoulder 620, and peg 622. Ex. 1014, 20–21, Figs. 17–18; Ex. 2039 ¶ 239. Michelson's holder provides complementary spring locks 546 and 548, cutout 518, and receiving slot 520. Ex. 1014, 20–24, Figs. 22–24.



Those structures establish and control the driver's insertion depth, axial position, and permitted rotation relative to holder 500. Ex. 2039 ¶¶ 240–242.

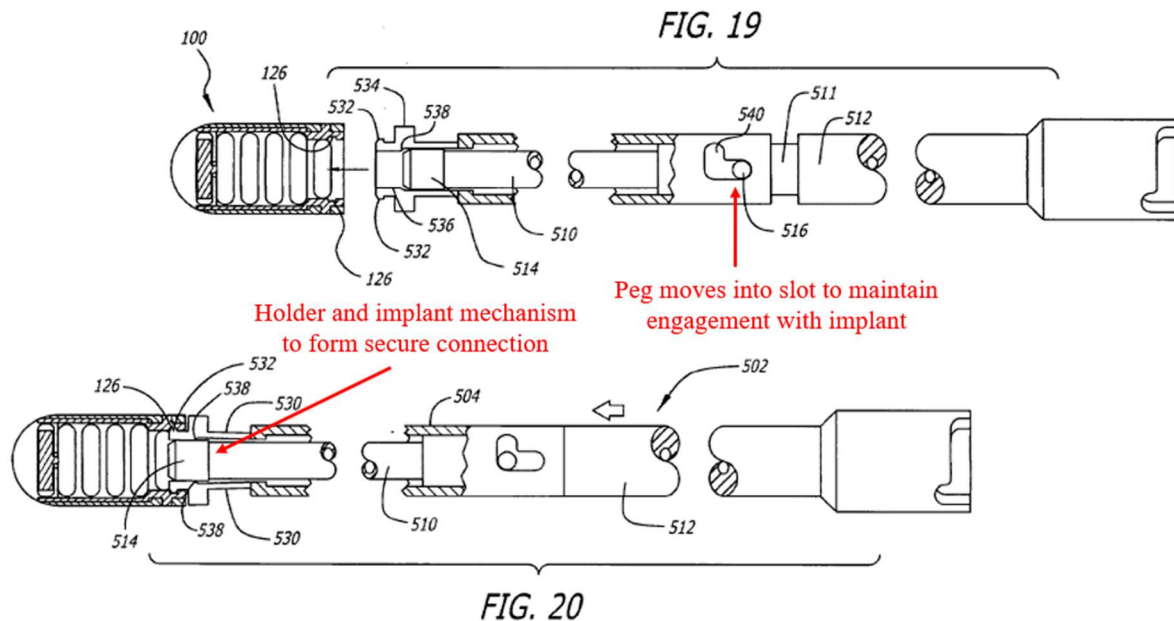
The references therefore present materially different systems. Gordon's driver and thumbwheel are integrated into instrument 700, with thumbwheel 714 positioned within a slot in handle 712 and coupled to driver 708, while Michelson's separate driver is designed to cooperate with complementary features in Michelson's holder. *Id.* ¶¶ 241–242.

Petitioner does not explain why a POSA would extract driver 600 from that engineered system and leave behind the structures designed to receive and coordinate its operation with the implant holder. Gordon's holder contains no structures corresponding to Michelson's spring locks, cutout, or receiving slot. Ex. 2039 ¶ 243. Nor does Petitioner explain how the detents, enlarged portion, shoulder, and peg of Michelson's driver would function with Gordon's materially different instrument. *Id.* ¶ 244.

3. Petitioner's proposed combination does not yield the benefit it identifies as a reason for a POSA to consider Michelson.

Petitioner asserts that “a POSITA would have been motivated to draw from Michelson's teachings of its tool assembly employing a locking mechanism for holding the implant securely at the target site while expander driver 600 rotates the implant's expansion mechanism.” Pet. 82. But that benefit is associated with Michelson's holder and its interaction with Michelson's implant—not with driver 600 considered in isolation. Michelson's holder securely connects to the implant by advancing the shaft of the holder so that shoulder 514 engages ramp portions 538 on

the holder's side extensions 530, spreading those extensions outward until flanges 532 engage complementary slots 126 in the implant, after which rotation of the holder shaft moves peg 516 into a locking position within L-shaped slot 540 to maintain that engagement. Ex. 1014, 20, 23, Figs. 19–21.



Despite relying on the benefits of this holder/implant system, Petitioner rejects it in favor of Gordon's holder, and extracts only the component needed to supply the second tool and handle recited in claim 9. Ex. 2039 ¶ 240. The proposed substitution therefore would not produce the secure implant-holding benefit on which Petitioner relies. That selective reliance is evidence of hindsight, not a reason for making the proposed combination.

4. Gordon’s disclosure of alternative control members does not support Petitioner’s redesign.

Petitioner relies on Gordon’s statement that the control member for driver 708 may be a thumbwheel, knob, lever, or button. Pet. 82–83; Ex. 1013 ¶ 228. It argues that Michelson’s T-shaped handle would have been another variation of Gordon’s knob and that the proposed change therefore would have been a simple substitution. Pet. 83; Ex. 1002 ¶¶ 93–94.³ Petitioner’s proposed modification is materially different from merely substituting a lever or knob for Gordon’s thumbwheel within the existing integrated architecture. Ex. 2039 ¶ 246. Petitioner’s combination would eliminate the integrated nature of the tool, reconfigure the handle to have a proximal opening, and insert a separate driver through that opening without identifying any mechanism that would establish and control the driver’s position and operation relative to the holder. Gordon’s general list of possible control members does not address those architectural changes or explain why a POSA would have made them. Ex. 2039 ¶ 245.

Petitioner’s reliance on the leverage provided by Michelson’s T-handle fares no better. Pet. 82–83. That asserted benefit may explain the shape of a control member, but it does not explain why a POSA would replace Gordon’s entire

³ Petitioner’s expert repeats Petitioner’s motivation to combine word-for-word, and should not be given any weight. *Compare* Pet. 79-85 with Ex. 1002, ¶¶ 89-98.

integrated driver architecture with Michelson's separately insertable driver while omitting the holder structures designed to receive and control it.

5. The complete proposed combination reflects hindsight selection from multiple systems.

Ground 3 also compounds Petitioner's Ground 1 reconstruction: Petitioner selects Gordon's implant 304, adds recesses 733 and holding device 710 disclosed with implant 484, removes Gordon's integrated driver and thumbwheel, and imports Michelson's driver while leaving behind Michelson's complementary holder structures. Ex. 2039 ¶¶ 247–248. Petitioner's asserted rationales address selected components in isolation but do not explain that particular series of choices. Petitioner does not identify a technical reason that would have led a POSA to select the driver specially designed for Michelson's system and substitute it for the integrated driver Gordon discloses. *Id.* The proposed hybrid becomes understandable only by using the challenged claims as a blueprint. Petitioner therefore fails to establish that a POSA would have been motivated to replace Gordon's integrated driver and thumbwheel with Michelson's expander driver. *Id.* ¶ 251.

C. Petitioner Fails to Establish a Reasonable Expectation of Success

The same structural differences that undermine Petitioner's motivation theory also defeat its reasonable-expectation showing. Michelson's separately insertable driver 600 relies on complementary structures in holder 500 to establish its insertion

depth, axial position, and permitted rotation. Gordon's holder lacks those structures, and Petitioner does not identify what would perform those functions after driver 600 is removed from Michelson's coordinated system. Ex. 2039 ¶¶ 242–244, 247–248.

Petitioner acknowledges that Gordon's handle would need to be reconfigured with a proximal opening to receive Michelson's driver. Pet. 83–84. But it does not explain how driver 600's detents, enlarged portion, shoulder, and peg would fit or function within Gordon's holder; what would retain and align the driver; or whether the driver has the dimensions and reach necessary to engage advancing element 312. Ex. 2039 ¶ 244. Petitioner further proposes modifying Michelson's tip 614 to engage element 312 but does not identify the resulting interface or analyze it as part of the complete system. Pet. 84; Ex. 2039 ¶ 250.

Petitioner never identifies a working configuration of its proposed hybrid. Culbert supplies no combined drawing, dimensional comparison, or technical explanation showing that Michelson's driver would fit, remain controlled and aligned, and operate element 312 through Gordon's reconstructed holder-and-implant arrangement. Petitioner therefore fails to demonstrate that a POSA would have had a reasonable expectation of success in implementing the proposed combination. Ex. 2039 ¶¶ 251–252.

In sum, Petitioner has not established that a POSA would have been motivated to replace Gordon's integrated driver 708 and thumbwheel 714 with Michelson's

expander driver 600 or would have reasonably expected that proposed hybrid to work. Michelson does not cure Gordon’s remaining deficiencies identified with respect to Ground 1. Accordingly, Gordon in view of Michelson does not render claims 9–12 and 14–17 obvious. *Id.* ¶¶ 253-255.

IX. GROUND 4: MCLUEN IN VIEW OF GORDON AND MICHELSON FAILS TO RENDER CLAIMS 9-12 AND 14-17 OBVIOUS.

A. Michelson Does Not Cure Ground 2’s Deficiencies.

Ground 4 adds Michelson to its Ground 2 argument for the same narrow purpose as Ground 3: to supply the separate second adjusting tool and handle required by limitation 9[c] and the step of extending that tool through the first tool required by claim 17. Petitioner provides no separate technical analysis of the resulting three-reference combination. Instead, it summarily asserts that the Gordon-Michelson tool assembly “would have functioned similarly to the Gordon tool assembly for engaging McLuen’s implant” and that substituting Michelson’s driver “would not impact the reliance on McLuen’s implant under Ground 2.” Pet. 86.

Michelson does not cure the Ground 2 deficiencies. It does not show that Gordon’s localized lobes 722 would engage with McLuen’s elongated channels 1522, that McLuen’s channels are sized, shaped, and configured to receive Gordon’s asserted engagement prongs, or that Gordon’s holder would align its driver passage with positioning means 1508 of McLuen’s implant. Nor does Michelson show that Gordon’s holder would remain engaged with McLuen’s channels while positioning

means 1508 is rotated. Those deficiencies remain for the reasons explained with respect to Ground 2. Ex. 2039 ¶¶ 256–257.

Substituting Michelson’s driver also fails to resolve the deficiencies identified in Ground 3. *Id.* Michelson’s driver 600 was designed to cooperate with complementary positioning and control structures in Michelson’s holder 500, not Gordon’s instrument 700. Petitioner does not explain how driver 600 would fit, remain controlled and aligned, or operate through Gordon’s reconfigured holder.

Petitioner’s assertion that the three-reference combination would function “similarly” does not cure either set of deficiencies. Michelson adds a separate driver and handle and involves insertion of a driver through the first tool, but it does not establish that the resulting system would satisfy claim 9 or the remaining requirements of dependent claim 17. Ground 4 therefore incorporates, rather than resolves, the defects of Grounds 2 and 3. *Id.*

B. Petitioner’s Three-Reference Reconstruction Reflects Hindsight and Lacks a Reasonable Expectation of Success.

Ground 4 once again exposes Petitioner’s hindsight reconstruction. Petitioner selects McLuen’s implant and positioning means, disregards McLuen’s contemplated channel-fitting tool, selects Gordon’s holder and coaxial passage, discards Gordon’s integrated driver and thumbwheel, selects Michelson’s separate T-handled driver, and leaves behind the Michelson holder structures designed to

receive and control that driver. Petitioner then asserts in a single paragraph that the resulting hybrid would function “similarly.” Pet. 86.

Petitioner does not articulate why a POSA would have made that particular series of selections. Ex. 2039 ¶ 256. The rationales asserted in Grounds 2 and 3 address the two proposed modifications separately but do not explain why a POSA would have combined them into the particular three-reference system asserted in Ground 4. McLuen already contemplates a tool designed to fit within channels 1522 and prevent slippage while positioning means 1508 is turned. Gordon already provides an integrated driver and thumbwheel within instrument 700. Michelson provides a separate driver designed to cooperate with Michelson’s holder. Petitioner selectively combines only the components needed to reproduce the challenged claims without explaining why a POSA would have departed from each disclosed arrangement to create this particular hybrid.

Nor does Petitioner establish a reasonable expectation that the hybrid would work. *Id.* The combination requires three essential interfaces: Gordon’s lobes 722 must securely engage McLuen’s channels 1522 and position Gordon’s holder passage on the proper axis relative to McLuen’s positioning means 1508; Michelson’s driver 600 must fit, remain controlled, and operate within Gordon’s reconfigured holder; and Michelson’s tip 614 must align with and engage McLuen’s positioning means 1508 while Gordon’s holder remains attached. Grounds 2 and 3

establish that Petitioner does not adequately address the first two issues. Ground 4 adds the third without analyzing it.

Petitioner’s statement that the resulting system would function “similarly” does not provide a reasoned explanation for selecting the proposed combination and, without supporting analysis, merely assumes its successful operation. A POSA’s general skill cannot substitute for a reasoned explanation of why the particular three-reference system would have been selected and expected to work.

Accordingly, Petitioner has not established a motivation to create the proposed McLuen-Gordon-Michelson hybrid or a reasonable expectation of success in doing so. Ground 4 therefore fails to render claims 9–12 and 14–17 obvious. Ex. 2039 ¶ 257.

X. CONCLUSION

Patent Owner requests the Board determine that claims 9-12, 14-18, and 20 of the ’136 Patent are not unpatentable.

Date: August 21, 2026

Respectfully submitted,
AVANTECH LAW, LLP
80 S 8th St, Suite 900
Minneapolis, MN 55402
(312) 487-2185

/Eric A. Zelepugas/
Eric A. Zelepugas
Registration No. 73,302
Lead Counsel for Patent Owner

CERTIFICATE OF COMPLIANCE WITH WORD COUNT

I certify that this paper complies with the type-volume limitations of 37 C.F.R. §42.24(b)(2) because it contains 13,913 words (determined by the word-processing system used to prepare this paper), excluding the parts of the paper exempted by 37 C.F.R. §42.24(a).

Date: August 21, 2026

Respectfully submitted,

/Eric A. Zelepugas/

Eric A. Zelepugas

Registration No. 73,302

Lead Counsel for Patent Owner

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing **PATENT OWNER'S RESPONSE** and **EXHIBITS 2038-2041** were served electronically via e-mail on August 21, 2026, in their entireties on the following counsel of record for Petitioner:

Naveen Modi (Lead Counsel)
Young Park (Back-up Counsel)
Chetan Bansal (Back-up Counsel)
Quadeer Ahmed (Back-up Counsel)
naveenmodi@paulhastings.com,
youngpark@paulhastings.com,
chetanbansal@paulhastings.com,
quadeerahmed@paulhastings.com
PH-Medtronic-Moskowitz-IPR@paulhastings.com.

Date: August 21, 2026

Respectfully submitted,
AVANTECH LAW, LLP
80 S 8th St, Suite 900
Minneapolis, MN 55402
(312) 487-2185

/Eric A. Zelepugas/
Eric A. Zelepugas
Registration No. 73,302
Lead Counsel for Patent Owner