

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MINNESOTA**

MOSKOWITZ FAMILY LLC,

Plaintiff,

vs.

MEDTRONIC, INC., MEDTRONIC
SOFAMOR DANEK, INC., MEDTRONIC
SOFAMOR DANEK USA, INC., WARSAW
ORTHOPEDIC, INC., and TITAN SPINE,
INC.,

Defendants.

Case No. 25-cv-00769 PJS/DLM

**DEFENDANTS MEDTRONIC, INC., MEDTRONIC SOFAMOR DANEK, INC.,
MEDTRONIC SOFAMOR DANEK USA, INC., WARSAW ORTHOPEDIC, INC., AND
TITAN SPINE, INC.'S PRIOR ART AND INVALIDITY CONTENTIONS**

I. INTRODUCTION

Pursuant to the Court’s Pretrial Scheduling Order (Dkt. No. 36), the Court’s Amended Pretrial Scheduling Order (Dkt. No. 44), and Plaintiff Moskowitz Family LLC’s (“Moskowitz”) First Amended Disclosure of Asserted Claims and Infringement Claim Charts Against Medtronic (served January 30, 2026) (“Infringement Contentions,” Defendants Medtronic, Inc., Medtronic Sofamor Danek, Inc., Medtronic Sofamor Danek USA, Inc., Warsaw Orthopedic, Inc., and Titan Spine, Inc. (collectively, “Defendants”) submit the following Prior Art and Invalidity Contentions (“Invalidity Contentions”) to Moskowitz.

In its Infringement Contentions, Moskowitz asserts infringement of the following patents (“the Asserted Patents”): U.S. Pat. Nos. 9,005,293 (“the ’293 Patent”); 9,907,674 (“the ’674 Patent”); 10,016,284 (“the ’284 Patent”); 10,064,738 (“the ’738 Patent”); 10,238,505 (“the ’505 Patent”); 10,426,633 (“the ’633 Patent”); 10,603,183 (“the ’183 Patent”); 11,096,797 (“the ’797 Patent”); 11,376,136 (“the ’136 Patent”); 11,864,755 (“the ’755 Patent”); 12,011,367 (“the ’367 Patent”); and 12,491,088 (“the ’088 Patent”), and specifically identifies the following claims as purportedly infringed by Defendants:

Asserted Patents	Asserted Claims
’293 Patent	Claims 1, 6, 7, 8, 9, 17, 18, 26, 27, 30, 39, 43, 44, 46, and 47
’674 Patent	Claims 34, 35, 36, 37, 39, 41, 42, 43, 44, and 46
’284 Patent	Claims 1, 2, 4, 7, 8, 10, 11, 12, 14, 15, 16, and 19
’738 Patent	Claims 1, 2, 3, 4, 5, 7, 9, 10, 11, 12, 22, 24, 25, 28, 30, 31, 32, and 33
’505 Patent	Claims 1, 2, 4, 5, 6, 7, 8, 9, 14, 15, 16, 17, 19, and 20
’633 Patent	Claims 1, 2, 4, 7, 8, 9, 10, 11, 12, 14, 16, 17, 19, and 20
’183 Patent	Claims 1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, and 20
’797 Patent	Claims 16 and 19

Asserted Patents	Asserted Claims
'136 Patent	Claims 9, 10, 11, 12, 14, 16, 18, and 20
'755 Patent	Claims 1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 17, 18, 19, and 20
'367 Patent	Claims 8, 9, 13, 17, 18, 19, 20, and 21
'088 Patent	Claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 18, 19, and 20

These Invalidity Contentions specifically address the invalidity of these asserted claims.

II. PRELIMINARY MATTERS

Defendants' Invalidity Contentions are based in whole or in part on their present understanding of the asserted claims and Moskowitz's Infringement Contentions. Defendants' Invalidity Contentions are responsive at least to the same level of specificity as Moskowitz's Infringement Contentions. Claim construction in this case has not yet occurred. As a result, Defendants reserve the right to present alternative constructions and/or to amend their Invalidity Contentions in light of the Court's claim construction rulings, as contemplated by the Court's Pretrial Scheduling Order (Dkt. No. 36), including in response to information disclosed or produced by Moskowitz. Indeed, Defendants' Invalidity Contentions may depend on the Court's claim construction. Defendants reserve all rights to further amend these Invalidity Contentions after the Court issues its claim construction ruling, or if the Court permits Moskowitz to amend its Infringement Contentions.

Defendants, however, do not concede that Moskowitz's Infringement Contentions disclose infringement theories with the requisite level of specificity, and Defendants provide these Invalidity Contentions without waiving any right to receive from Moskowitz full, complete, and specific infringement contentions. Moreover, nothing herein admits in any way that any of the accused devices or methods, or any of Defendants' other devices or methods, infringe any of the asserted claims.

Moskowitz may only amend its Infringement Contentions by leave of the Court for good cause shown. Dkt. No. 36 at 4. Should Moskowitz amend its Infringement Contentions with additional infringement theories, Defendants reserve the right to amend their Invalidity Contentions to assert invalidity based on the additional infringement theories. Defendants also reserve the right to supplement their Invalidity Contentions in response to information learned in fact or expert discovery, including identification of additional prior art.

Defendants further reserve the right to rely on any prior art or other invalidity defenses identified in any *Inter Partes* Review, Post-Grant review, or other proceedings before the United States Patent and Trademark Office involving the Asserted Patents or related patents. Defendants also reserve the right to assert additional grounds of invalidity, including but not limited to grounds of invalidity under 35 U.S.C. §§ 101 and/or 112, as warranted by further investigation, claim construction proceedings, expert analysis, or amendments to Moskowitz's Infringement Contentions. Defendants additionally reserve the right to rely on any prior art-based invalidity ground raised by the defendants in *Moskowitz Family LLC v. NuVasive, LLC et al.*, Case No. 1-25-cv-00711 (D. Del.).

Defendants' discovery and investigation in connection with this lawsuit is continuing. Thus, these Invalidity Contentions are based on information obtained to date. Among other things, discovery is still underway, witnesses remain to be deposed, and the Court has not yet construed any terms of the patents-in-suit. Accordingly, Defendants' Invalidity Contentions are subject to modification, amendment, or supplementation in accordance with the Court's Pretrial Scheduling Order, other orders of the Court, and/or the Federal Rules of Civil Procedure as this action progresses and additional information is obtained.

Defendants identify below several prior-art systems that, alone or combined with other prior art, invalidate claims of the Asserted Patents. Defendants have issued and may further issue subpoenas directed to the owners/makers/sellers of those systems, and expressly reserve the right to amend these contentions to add information obtained from these third parties.

Pursuant to the *Sotera* stipulations entered in this case, Defendants will not pursue any grounds that were raised or reasonably could have been raised in instituted (and not subsequently dismissed or terminated) *Inter Partes* Review proceedings (“IPRs”). *See* Dkt. Nos. 50, 58, 67. To the extent any invalidity grounds set forth in these Invalidity Contentions overlap with grounds that were raised or reasonably could have been raised in instituted IPRs, such grounds are included herein solely to provide Plaintiff notice of those grounds and preserve Defendants’ rights, for example, if the IPRs are terminated without a final written decision.

These Invalidity Contentions, and any amendments or supplements thereto, are also submitted in compliance with and in satisfaction of the notice requirements of 35 U.S.C. § 282(c).

III. IDENTIFICATION OF PRIOR ART

Pursuant to the Pretrial Scheduling Order, Paragraph 3, Defendants identify the following prior art on which they rely. All of the prior art disclosed below relates to the fields of spinal implants and/or surgical procedures. As such, the below-disclosed pieces of prior art, collectively, are all relevant at least as background of the art to the Asserted Patents. Defendants expressly reserve the right to at least use and rely on any of the prior art cited herein to establish or otherwise support Defendants’ contentions as to what was known in the state of the art during the pertinent time frame for each Asserted Patent.

A. **Printed Publications**

<u>Reference</u>	<u>Filing Date</u>	<u>Publication Date</u>
U.S. Patent App. Pub. No. 2013/0211526 to Alheidt et al.	8/16/2012	8/15/2013
U.S. Patent No. 5,658,335 to Allen	3/9/1995	8/19/1997
U.S. Patent No. 7,238,203 to Bagga et al.	9/26/2002	7/3/2007
U.S. Patent No. 7,662,186 to Bagga et al.	5/6/2005	2/16/2010
U.S. Patent No. 9,629,728 to Bagga et al.	11/9/2015	4/25/2017
U.S. Patent App. Pub. No. 2007/0270968 to Baynham et al.	4/27/2007	11/22/2007
U.S. Patent App. Pub. No. 2004/0059271 to Berry	9/16/2003	3/25/2004
U.S. Patent No. 5,989,290 to Biedermann et al.	5/15/1996	11/23/1999
U.S. Patent No. 8,172,854 to Blain et al.	7/18/2008	5/8/2012
U.S. Patent No. 7,217,293 to Branch, Jr.	11/21/2003	5/15/2007
U.S. Patent No. 8,221,502 to Branch, Jr.	4/6/2007	7/17/2012
U.S. Patent No. 6,984,234 to Bray	4/21/2003	1/10/2006
U.S. Patent No. 5,888,223 to Bray, Jr.	6/9/1998	3/30/1999
U.S. Patent No. 7,985,255 to Bray et al.	10/12/2005	7/26/2011
U.S. Patent No. 8,100,976 to Bray et al.	1/5/2007	1/24/2012
U.S. Patent App. Pub. No. 2007/0250167 to Bray et al.	4/16/2007	10/25/2007
U.S. Patent No. 3,322,381 to Bubb	4/26/1966	5/30/1967
U.S. Patent No. 7,077,864 to Byrd et al.	2/5/2003	7/18/2006
U.S. Patent No. 5,423,826 to Coates et al.	10/29/1993	6/13/1995
Korean Utility Model Registration No. 20-0290058 to Chung	5/11/2002	9/26/2002
PCT International Publication No. WO 2010/141910 A2 to Davis et al.	6/4/2010	12/9/2010
U.S. Patent No. 4,657,550 to Daher	1/16/1986	4/14/1987
U.S. Patent No. 9,408,715 to Donner et al.	4/15/2010	8/9/2016
U.S. Patent No. 4,904,261 to Dove et al.	8/4/1988	2/27/1990
U.S. Patent No. 8,579,911 to Dudasik	1/16/2009	11/12/2013
U.S. Patent No. 6,491,724 to Ferree	12/3/1999	12/10/2002
U.S. Patent No. 7,172,627 to Fiere et al.	4/3/2002	2/6/2007
U.S. Patent App. Pub. No. 2002/0082597 to Fraser	11/24/1999	6/27/2002

<u>Reference</u>	<u>Filing Date</u>	<u>Publication Date</u>
U.S. Patent No. 7,112,222 to Fraser et al.	3/31/2003	9/26/2006
U.S. Patent App. Pub. No. 2005/0253201 to Gordon et al.	5/20/2005	12/15/2005
U.S. Patent App. Pub. No. 2007/0073406 to Gordon et al.	9/25/2006	3/29/2007
U.S. Patent No. 6,902,579 to Harms et al.	12/21/2001	6/7/2005
U.S. Patent No. 6,066,175 to Henderson et al.	6/9/1998	5/23/2000
U.S. Patent No. 5,568,946 to Jackowski	12/14/1994	10/29/1996
U.S. Patent No. 6,685,742 to Jackson	11/12/2002	2/3/2004
U.S. Patent No. 5,458,641 to Jimenez	9/8/1993	10/17/1995
U.S. Patent App. Pub. No. 2008/0200984 to Jodaitis et al.	2/16/2007	8/21/2008
U.S. Patent No. 8,273,127 to Jones et al.	6/6/2007	9/25/2012
U.S. Patent No. 10,034,764 to Kana et al.	4/27/2012	7/31/2018
U.S. Patent No. 9,114,023 to Kana et al.	4/27/2012	8/25/2015
U.S. Patent No. 5,397,364 to Kozak et al.	10/12/1993	3/14/1995
U.S. Patent No. 5,554,191 to LaHille et al.	1/23/1995	9/10/1996
U.S. Patent No. 5,782,832 to Larsen et al.	10/1/1996	7/21/1998
U.S. Patent App. Pub. No. 2006/0085071 to Lechmann et al.	8/8/2005	4/20/2006
U.S. Patent No. 8,709,085 to Lechmann et al.	10/28/2011	4/29/2014
U.S. Patent App. Pub. No. 2018/0344477 to Lechmann et al.	8/13/2018	12/6/2018
U.S. Patent App. Pub. No. 2005/0182416 to Lim et al.	2/13/2004	8/18/2005
U.S. Patent No. 6,629,998 to Lin	8/23/2000	10/7/2003
U.S. Patent No. 6,436,140 to Liu et al.	8/26/1999	8/20/2002
U.S. Patent No. 7,232,464 to Mathieu et al.	8/19/2004	6/19/2007
U.S. Patent App. Pub. No. 2006/0253201 to McLuen	7/10/2006	11/9/2006
U.S. Patent App. Pub. No. 2010/0305704 to Messerli et al.	2/27/2007	12/2/2010
U.S. Patent No. 6,558,423 to Michelson	5/5/2000	5/6/2003
U.S. Patent No. 7,008,453 to Michelson	7/7/2000	3/7/2006
U.S. Patent No. 7,118,579 to Michelson	2/4/2002	10/10/2006
U.S. Patent No. 7,935,149 to Michelson	6/2/2009	5/3/2011
U.S. Patent No. 6,972,019 to Michelson	1/23/2001	12/6/2005

<u>Reference</u>	<u>Filing Date</u>	<u>Publication Date</u>
U.S. Patent No. 6,849,093 to Michelson	3/8/2002	2/1/2005
U.S. Patent No. 6,730,127 to Michelson	7/10/2001	5/4/2004
U.S. Patent App. Pub. No. 2002/0177897 to Michelson	2/4/2002	11/28/2002
U.S. Patent App. Pub. No. 2003/0208275 to Michelson	2/5/2001	11/6/2003
U.S. Patent App. Pub. No. 2002/0161443 to Michelson	4/3/2002	10/31/2002
Australian Patent App. Pub. No. 2007202404 to Michelson	5/25/2007	6/14/2007
U.S. Patent No. 8,152,851 to Mueller et al.	8/9/2008	4/10/2012
U.S. Patent App, Pub. No. 2002/0082695 to Neumann	12/26/2001	6/27/2002
U.S. Patent No. 4,636,217 to Ogilvie et al.	4/23/1985	1/13/1987
U.S. Patent No. 9,445,919 to Palmatier et al.	12/19/2011	9/20/2016
U.S. Patent No. 7,763,078 to Peterman et al.	3/28/2005	7/27/2010
U.S. Patent No. 6,344,057 to Rabbe et al.	5/5/1998	2/5/2002
U.S. Patent No. 4,401,112 to Rezaian	10/2/1981	8/30/1983
U.S. Patent No. 7,674,296 to Rhoda et al.	4/21/2005	3/9/2010
U.S. Patent No. 9,585,766 to Robinson	8/8/2013	3/7/2017
U.S. Patent No. 5,336,223 to Rogers	2/4/1993	8/9/1994
U.S. Patent No. 5,702,455 to Saggar	7/3/1996	12/30/1997
U.S. Patent No. 7,056,343 to Schäfer et al.	1/30/2003	6/6/2006
U.S. Patent No. 6,176,881 to Schär et al.	4/15/1997	1/23/2001
U.S. Patent No. 5,571,192 to Schonhoffer	7/3/1995	11/5/1996
U.S. Patent No. 6,342,074 to Simpson	4/24/2000	1/29/2002
U.S. Patent No. 8,460,296 to Smith et al.	2/17/2010	6/11/2013
U.S. Patent No. 6,193,756 to Studer et al.	8/26/1998	2/27/2001
Sturm et al., Coda PLIF Spacer/Cadence PLIF Spacer/TraXis Surgical Technique, <i>in</i> Spinal Instrumentation (Kim et al., eds.)	N/A	2005
U.S. Patent No. 6,395,034 to Suddaby	11/24/1999	5/28/2002
U.S. Patent App. Pub. No. 2008/0281425 to Thalgott et al.	2/20/2008	11/13/2008
U.S. Patent No. 5,916,267 to Tienboon et al.	4/7/1997	6/29/1999
FR Patent No. 2727003 to Tisserand	11/18/1994	4/18/1997
U.S. Patent No. 8,795,366 to Varela	12/21/2010	8/5/2014

<u>Reference</u>	<u>Filing Date</u>	<u>Publication Date</u>
U.S. Patent App. Pub. No. 2008/0249569 to Waugh et al.	4/3/2007	10/9/2008
U.S. Patent App. Pub. No. 2008/0249625 to Waugh et al.	4/3/2007	10/9/2008
U.S. Patent No. 8,268,000 to Waugh et al.	4/3/2007	9/18/2012
U.S. Patent No. 8,425,607 to Waugh et al.	4/3/2007	4/23/2013
U.S. Patent No. 4,553,273 to Wu	11/23/1983	11/19/1985
U.S. Patent App. Pub. No. 2003/0045877 to Yeh et al.	5/16/2002	3/6/2003
U.S. Patent App. Pub. No. 2008/0045968 to Yu et al.	8/18/2006	2/21/2008
European Patent No. 1818025 to Zdeblick et al.	2/19/1997	8/15/2007
WO 99/38463 to Zdeblick et al.	1/26/1999	8/5/1999
U.S. Patent No. 8,211,148 to Zhang et al.	4/24/2007	7/3/2012

B. System Art

<u>Prior Art System</u>
DePuy SynFix LR system
Globus XPAND system
Medtronic INTREPID system
Medtronic LIFT system
Medtronic System Art, including that disclosed in the attached charts that was developed within Medtronic between 2010 and 2012, patented in connection with the Palmatier patent, and was later released as the Elevate product.
Medtronic Vertespan system
Osteotech VBR system
Surgicraft Ltd. STALIF™ system
Ulrich Obelisc system
Ulrich VBR system
Ulrich ADD plus system
Ulrich ADD system
Opticage system
Coda / Spinal Innovations
Sofamor system

Defendants also identify any patent or patent application publications that are practiced by or otherwise related to the systems identified above. Defendants continue to investigate the identities of the individuals or entities involved in the above systems, and Defendants will continue to produce additional documents relating to the invalidity of the asserted claims by those products as they become available. Defendants also note that several companies not listed here may have prior art systems, such as the owners of the patents or patent applications listed above. Defendants reserve the right to provide additional invalidity contention information as additional information becomes available. Defendants also reserve the right to rely on any of the documents associated with these systems to the extent those documents qualify as printed publications.

IV. PRIOR ART INVALIDITY

Attached as exhibits are invalidity charts including detailed explanations with respect to where in the prior art each element of the claims identified above may be found. Additional secondary references for the reference/combinations are presented and discussed in the attached claim charts, which are fully incorporated herein. In addition, Defendants incorporate by reference the invalidity arguments presented in the IPR Petitions filed in IPR2025-01598 ('293 Patent); IPR2026-00121 ('755 Patent); IPR2026-00124 ('797 Patent); IPR2026-00162 ('367 Patent); IPR2026-00163 ('136 Patent); IPR2026-00216 ('284 Patent); IPR2026-00217 ('633 Patent); IPR2026-00265 ('738 Patent); and IPR2026-00285 ('183 Patent), and all prior art presented therein.

Defendants have endeavored to cite to the most relevant portions of the identified prior art in their invalidity claim charts. However, other portions of the identified prior art may additionally disclose, either expressly or inherently, one or more elements or limitations of the asserted claims.

In an effort to focus the issues, Defendants identify only exemplary portions of the identified prior art. To the extent Moskowitz contends that a charted reference does not expressly disclose certain claim limitations, such limitations are inherent. Defendants reserve the right to rely on uncited portions of the identified prior art to establish the invalidity of the asserted claims. Moreover, Defendants reserve the right to rely on uncited portions of the identified prior art, rely on other references (irrespective of whether such references themselves qualify as prior art) to show the state of the art, and/or to rely on expert or fact testimony to provide context to, or aid in, understanding the prior art. Where Defendants cite to a particular drawing or figure in the attached claim charts, the citation encompasses the description of the drawing or figure, as well as any text associated with the drawing or figure. Similarly, where Defendants cite to particular text concerning a drawing or figure, the citation encompasses that drawing or figure as well.

Defendants' citations to structures or functions incorporate by reference all disclosures to related structures or functions, including any additional detail provided as to the operation or design of those structures or functions. Further, citations in each dependent claim include citations to each claim from which it directly or indirectly depends. And citations as to any recited limitation, step, or component in the claims apply wherever each such limitation, step, or component is repeatedly recited elsewhere in the claim.

A. **'293 Patent**

Pursuant to Paragraph 3 of the Pretrial Scheduling Order, the prior art at issue in these contentions anticipates and/or renders obvious each asserted claim of the '293 Patent under 35 U.S.C. §§ 102 and/or 103.

Attached as **Exhibits A1-A6**, Defendants provide invalidity charts including detailed explanations with respect to where in the prior art each element of the asserted '293 Patent claims

identified above may be found. Additionally, **Exhibit A7** sets forth the reasons why the claims of the '293 patent are invalid for double patenting.

B. '674 Patent

Pursuant to Paragraph 3 of the Pretrial Scheduling Order, the prior art at issue in these contentions anticipates and/or renders obvious each asserted claim of the '674 Patent under 35 U.S.C. §§ 102 and/or 103.

Attached as **Exhibits B1-B5**, Defendants provide invalidity charts including detailed explanations with respect to where in the prior art each element of the asserted '674 Patent claims identified above may be found. Additionally, **Exhibit B6** sets forth the reasons why the claims of the '674 patent are invalid for double patenting.

C. '284 Patent

Pursuant to Paragraph 3 of the Pretrial Scheduling Order, the prior art at issue in these contentions anticipates and/or renders obvious each asserted claim of the '284 Patent under 35 U.S.C. §§ 102 and/or 103.

Attached as **Exhibits C1-C4**, Defendants provide invalidity charts including detailed explanations with respect to where in the prior art each element of the asserted '284 Patent claims identified above may be found.

D. '738 Patent

Pursuant to Paragraph 3 of the Pretrial Scheduling Order, the prior art at issue in these contentions anticipates and/or renders obvious each asserted claim of the '738 Patent under 35 U.S.C. §§ 102 and/or 103.

Attached as **Exhibits D1-D5**, Defendants provide invalidity charts including detailed explanations with respect to where in the prior art each element of the asserted '738 Patent claims identified above may be found.

E. **'505 Patent**

Pursuant to Paragraph 3 of the Pretrial Scheduling Order, the prior art at issue in these contentions anticipates and/or renders obvious each asserted claim of the '505 Patent under 35 U.S.C. §§ 102 and/or 103.

Attached as **Exhibits E1-E6**, Defendants provide invalidity charts including detailed explanations with respect to where in the prior art each element of the asserted '505 Patent claims identified above may be found.

F. **'633 Patent**

Pursuant to Paragraph 3 of the Pretrial Scheduling Order, the prior art at issue in these contentions anticipates and/or renders obvious each asserted claim of the '633 Patent under 35 U.S.C. §§ 102 and/or 103.

Attached as **Exhibits F1-F3**, Defendants provide invalidity charts including detailed explanations with respect to where in the prior art each element of the asserted '633 Patent claims identified above may be found. Additionally, **Exhibit F4** sets forth the reasons why the claims of the '633 Patent are invalid for double patenting.

G. **'183 Patent**

Pursuant to Paragraph 3 of the Pretrial Scheduling Order, the prior art at issue in these contentions anticipates and/or renders obvious each asserted claim of the '183 Patent under 35 U.S.C. §§ 102 and/or 103.

Attached as **Exhibits G1-G5**, Defendants provide invalidity charts including detailed explanations with respect to where in the prior art each element of the asserted '183 Patent claims identified above may be found.

H. **'797 Patent**

Pursuant to Paragraph 3 of the Pretrial Scheduling Order, the prior art at issue in these contentions anticipates and/or renders obvious each asserted claim of the '797 Patent under 35 U.S.C. §§ 102 and/or 103.

Attached as **Exhibits H1-H3**, Defendants provide invalidity charts including detailed explanations with respect to where in the prior art each element of the asserted '797 Patent claims identified above may be found.

I. **'136 Patent**

Pursuant to Paragraph 3 of the Pretrial Scheduling Order, the prior art at issue in these contentions anticipates and/or renders obvious each asserted claim of the '136 Patent under 35 U.S.C. §§ 102 and/or 103.

Attached as **Exhibits I1-I3**, Defendants provide invalidity charts including detailed explanations with respect to where in the prior art each element of the asserted '136 Patent claims identified above may be found.

J. **'755 Patent**

Pursuant to Paragraph 3 of the Pretrial Scheduling Order, the prior art at issue in these contentions anticipates and/or renders obvious each asserted claim of the '755 Patent under 35 U.S.C. §§ 102 and/or 103.

Attached as **Exhibits J1-J5**, Defendants provide invalidity charts including detailed explanations with respect to where in the prior art each element of the asserted '755 Patent claims identified above may be found.

K. **'367 Patent**

Pursuant to Paragraph 3 of the Pretrial Scheduling Order, the prior art at issue in these contentions anticipates and/or renders obvious each asserted claim of the '367 Patent under 35 U.S.C. §§ 102 and/or 103.

Attached as **Exhibits K1-K3**, Defendants provide invalidity charts including detailed explanations with respect to where in the prior art each element of the asserted '367 Patent claims identified above may be found. Additionally, **Exhibit K4** sets forth the reasons why the claims of the '367 Patent are invalid for double patenting. Additionally, **Exhibit K4** sets forth the reasons why the claims of the '367 Patent are invalid for double patenting.

L. **'088 Patent**

Pursuant to Paragraph 3 of the Pretrial Scheduling Order, the prior art at issue in these contentions anticipates and/or renders obvious each asserted claim of the '088 Patent under 35 U.S.C. §§ 102 and/or 103.

Attached as **Exhibits L1-L5 and L7**, Defendants provide invalidity charts including detailed explanations with respect to where in the prior art each element of the asserted '088 Patent claims identified above may be found. Additionally, **Exhibit L6** sets forth the reasons why the claims of the '088 Patent are invalid for double patenting.

V. INVALIDITY OTHER THAN PRIOR ART

A. 35 U.S.C. § 112

The terms and phrases recited in the claims of the Asserted Patents do not appear anywhere in the specification of the respective patent. As such, at the least the following claim terms and/or phrases (including individual claim terms recited therein) from the Asserted Patents are not properly supported under 35 U.S.C. § 112:

1. '293 Patent:

- *“screw fusion” (Claims 1, 43, 44)*
- *“an intervertebral cage including: a top wall, a bottom wall, and two sidewalls defining an open space capable of receiving bone filling for the biological bone fusion” (Claims 1, 44)*
- *“a top wall; a bottom wall opposite the top wall; a first sidewall; a second sidewall opposite the first sidewall, each of the first sidewall and the second sidewall having a surface configured to contact one of the adjacent vertebral bodies when the intervertebral cage is inserted into the disc space” (Claim 43)*
- *“an internal screw guide having an internal bore with an entry opening ... the entry opening of the internal bore formed only in a top surface of the top wall” (Claims 1, 44)*
- *“[an] internal screw trajectory guide having an internal bore with an entry opening ... the internal bore of the entry opening formed only in the top surface of the top wall” (Claim 43)*
- *“A universal, intervertebral combination internal screw guide and fixation apparatus” (Claims 1, 44)*
- *“wherein the top wall has a thickness extending from the top surface of the top wall to the bottom surface of the top wall in a direction of a depth of the intervertebral cage, a height of the intervertebral cage extending in a direction perpendicular to the depth” (Claim 6)*
- *“wherein an axis of the internal screw guide extends to a greater extent in the direction of the depth of the intervertebral cage than in a direction of a height of the intervertebral cage in order to facilitate multi-level fusion of adjacent vertebral bodies with multiple intervertebral cages” (Claim 6)*

- *“wherein the top wall of the intervertebral cage has a thickness that is greater than a thickness of each of the sidewalls” (Claim 7)*
- *“wherein the entry opening of the internal bore of the internal screw guide and the second entry opening of the internal bore of the second internal screw guide are arranged diagonally on the top surface of the top wall” (Claim 26)*
- *“wherein the top wall has four quadrants delineated by a first axis and a second axis each lying in a plane of the top wall, and the first axis is at a right angle with respect to the second axis, wherein the four quadrants include a first quadrant, a second quadrant, a third quadrant, and a fourth quadrant, wherein the first quadrant and the fourth quadrant are opposed to the second quadrant and the third quadrant with respect to the first axis, and the first quadrant and the second quadrant are opposed to the third quadrant and the fourth quadrant with respect to the second axis, wherein the first quadrant is diagonally opposed to the third quadrant, and the second quadrant is diagonally opposed to the fourth quadrant, and wherein a majority of an area of the entry opening of the internal bore of the internal screw guide is in the first quadrant and a majority of an area of the internal bore of the second entry opening of the second internal screw guide is in the third quadrant” (Claim 27)*
- *“A zero-profile, intervertebral cage sized and configured to be inserted into a disc space between adjacent vertebral bodies and to provide fusion of the adjacent vertebral bodies via biological bone fusion and screw fusion” (Claim 43)*
- *“wherein the top wall includes a top surface and a bottom surface opposite the top surface, the top surface configured to have a zero-profile with respect to the adjacent vertebral bodies when the intervertebral cage is inserted into the disc space” (Claim 43)*

2. '674 Patent:

- *“screw fusion” (Claims 34, 41)*
- *“an intervertebral cage comprising a top portion and a bottom portion with the top portion operably connected to the bottom portion, wherein the top portion and the bottom portion combine to form a top wall, a bottom wall, a first sidewall and a second sidewall, wherein the top portion forms the top wall and at least part of the first and second side walls, wherein the bottom portion forms the bottom wall and at least part of the first and second side walls” (Claims 34, 41)*

- *“a first internal screw guide having a first entry opening and a first exit opening, the first entry opening formed at least partially in a top surface of the top portion at the top wall and the first exit opening formed at least partially in a bottom surface of the top portion at the top wall and at least partially in a first side surface of the top portion at the top wall” (Claims 34, 41)*
 - *“a second internal screw guide having a second entry opening and a second exit opening, the second entry opening formed at least partially in the top surface of the top portion at the top wall and the second exit opening formed at least partially in the bottom surface of the top portion at the top wall and at least partially in a second side surface of the top portion at the top wall” (Claims 34, 41)*
 - *“at least one indentation in the top surface of the top portion of the top wall positioned between the first internal screw guide and the second internal screw guide” (Claim 41)*
 - *“wherein the at least one indentation in the top surface comprises first and second indentations in the top surface of the top portion of the top wall positioned between the first internal screw guide and the second internal screw guide” (Claim 44)*
 - *“means for facilitating integration and fusion with superior and inferior vertebral bodies” (Claims 37, 43)*
 - *“the elongate shaft” (Claim 35)*
 - *“wherein the open space extends from an inner surface of the first sidewall to an inner surface of the second sidewall and extends from an inner surface of the top wall to an inner surface of the bottom wall” (Claims 36, 42)*
3. '284 Patent:
- *“hingedly connected” / “hingedly interconnected” (Claims 1, 14, 15, 19)*
 - *“pivot” (Claims 1, 14, 19)*
 - *“axially aligned” / “axially confined” (Claims 1, 14, 19)*
 - *“wherein the wedge is configured to slide . . . toward the second and fourth ends” (Claims 1, 14, 19)*
 - *“end” / “end portion” (including all iterations, i.e., first, second, third, etc.) (Claims 1, 2, 14, 15, 19)*

- *“side portions” (including all iterations, i.e., first, second, third, etc.) (Claims 1, 2, 7, 14, 19)*
- *“engagement surface” (including all iterations, i.e., first, second, third, etc.) (Claims 1, 14, 19)*

4. **’738 Patent:**

- *“biological bone fusion and screw fusion” (Claims 1, 12)*
- *“a top wall, a bottom wall, and two sidewalls defining an open space capable of receiving bone filling for the biological bone fusion” (Claims 1, 12, 24)*
- *“an internal screw guide having a screw entrance portion and an internal bore portion” (Claims 1, 12, 24)*
- *“wherein the screw entrance portion is larger than and coaxial with the internal bore and is formed at least partially in the top surface of the top wall as viewed from the top” (Claims 1, 12, 24)*
- *“wherein the internal bore portion has an entry opening formed only in a top surface of the top wall as viewed from the top” (Claims 1, 12, 24)*
- *“wherein the internal bore portion . . . has an exit opening formed at least partially in a bottom surface of the top wall and at least partially in a side surface of the top wall” (Claims 1, 12, 24)*
- *“a second internal screw guide having a second screw entrance portion and a second internal bore portion, wherein the second screw entrance portion is larger than and coaxial with the second internal bore and is formed at least partially in the top surface of the top wall as viewed from the top” (Claims 1, 12, 24)*
- *“wherein the second internal bore portion has a second entry opening formed only in the top surface of the top wall as viewed from the top” (Claims 1, 12, 24)*
- *“wherein the second internal bore portion . . . has a second exit opening formed at least partially in the bottom surface of the top wall and at least partially in a second side surface of the top wall” (Claims 1, 12, 24)*
- *“wherein the first slot is positioned along a first centerline axis that bisects the first side wall and is positioned nearer a top of the intervertebral cage than a bottom of the intervertebral cage” (Claims 1, 12, 24)*

- *“wherein the second slot is positioned along a second centerline axis that bisects the second side wall and is positioned nearer the top of the intervertebral cage than the bottom of the intervertebral cage” (Claims 1, 12, 24)*
- *“surface features” (Claims 1, 5, 12, 24, 28)*
- *“wherein the side surface and the second side surface of the top wall are patterned with a plurality of surface features to create rough side surfaces, wherein at least some of the plurality of surface features are positioned on the side surface between the top wall and the exit opening” (Claims 1, 12, 24)*
- *“wherein the top wall, the bottom wall, and the sidewalls are integrally formed” (Claims 1, 12, 24)*
- *“wherein the first screw is sized to be positioned in the internal screw guide with the first screw head in the screw entrance portion” (Claims 1, 12)*
- *“a screw locking bracket having a first end portion sized and positioned to be inserted in the first slot, a second end portion sized and positioned to be inserted in the second slot and a central portion extending between the first end portion and the second end portion” (Claims 1, 12)*
- *“wherein when the screw locking bracket is connected to the intervertebral cage with the first end portion in the first slot and the second end portion in the second slot, the central portion partially blocks the screw entrance portion and the second screw entrance portion so as to retain the first and second screws in the internal screw guide and the second internal screw guide while leaving at least a portion of the screw entrance portion and the second screw entrance portion at least partially exposed” (Claims 1, 12)*
- *“wherein the screw locking bracket contacts both the first and second screw heads when the screw locking bracket is connect to the intervertebral cage” (Claim 2)*
- *“wherein the first end portion and the second end portion extend in a direction that is substantially perpendicular to the central portion” (Claim 4)*
- *“wherein the plurality of surface features on the side surface and the second side surface are patterned all the way next to the top surface of the top wall so as to be adjacent the top surface of the top wall” (Claims 5, 28)*
- *“the apparatus further comprising means for fusing superior and inferior lumbar vertebral bodies in conjunction with the intervertebral cage” (Claim 7)*

- *“wherein the screw locking bracket comprises means to slightly open the screw locking bracket” (Claim 10)*
- *“locking the first screw and the second screw in the intervertebral cage using a screw locking bracket coupled to the intervertebral cage by positioning a first end portion of the screw locking bracket in the first slot, a second end portion of the screw locking bracket in the second slot and a central portion of the screw locking bracket extending between the first end portion and the second end portion across at least part of the top surface of the top wall such that the central portion partially blocks the screw entrance portion and the second screw entrance portion so as to retain the first and second screws in the internal screw guide and the second internal screw guide while leaving at least a portion of the screw entrance portion and the second screw entrance portion at least partially exposed” (Claim 24)*
- *“wherein the screw locking bracket comprises means to slightly deform the screw locking bracket to remove the screw locking bracket from the intervertebral cage” (Claim 30)*
- *“wherein the means comprises a flexion portion of the screw locking bracket” (Claim 31)*
- *“contacting both the first and second screw heads with the screw locking bracket when the screw locking bracket is connected to the intervertebral cage” (Claim 32)*

5. **’505 Patent:**

- *“an intervertebral spacer including a top wall, a bottom wall, and first and second sidewalls, wherein the intervertebral spacer defines: an open space between the top, bottom, first, and second sidewalls capable of receiving bone filling for biological bone fusion” (Claims 1, 19, 20)*
- *“wherein the first slot is positioned along a first centerline axis that bisects the first side wall and wherein the second slot is positioned along a second centerline axis that bisects the second side wall” (Claims 1, 19, 20)*
- *“a second slot on a second outer side of the second sidewall of the two sidewalls, wherein the second slot is positioned opposite of the first slot, wherein the first slot is positioned along a first centerline axis that bisects the first side wall and wherein the second slot is positioned along a second centerline axis that bisects the second side wall” (Claims 1, 19, 20)*
- *“a first internal screw guide having a first entry opening ... the first entry opening of the first internal screw guide formed at least partially in a top surface of [a] top wall” (Claims 1, 19, 20)*

- *“a second internal screw guide having a second entry opening ... the second entry opening of the second internal screw guide formed at least partially in the top surface of the top wall” (Claims 1, 19, 20)*
- *“an indentation in the top surface of the top wall extending between at least a portion of the first internal screw guide and the second internal screw guide” (Claims 1, 19, 20)*
- *“a hole extending into the top wall ... at a position that is located in the indentation between the first internal screw guide and the second internal screw guide” (Claims 1, 19, 20)*
- *“a screw locking mechanism positioned in the indentation of the intervertebral spacer and extending at least partially into the hole” (Claim 1, 19, 20)*
- *“screw fusion” (Claims 1, 16, 19, 20)*
- *“means for facilitating integration and fusion with superior and inferior vertebral bodies” (Claim 9)*
- *“a screw locking mechanism positioned in the indentation of the intervertebral spacer and extending at least partially into the hole, wherein the screw locking mechanism has a central portion sized and configured to be inserted in the hole and has first and second side portions extending perpendicular to the hole so as to engage the first and second screws and secure the first and second screws in position when the first and second screws are inserted into the first and second internal screw guides” (Claim 19)*
- *“a screw locking mechanism positioned in the indentation of the intervertebral spacer and extending at least partially into the hole, wherein the screw locking mechanism comprises a first curved portion extending toward the first internal screw guide in engaging contact with the first screw when the first screw is inserted in the first internal screw guide and a second curved portion extending toward the second internal screw guide in engaging contact with the second screw when the second screw is inserted in the second internal screw guide” (Claim 20)*
- *“wherein the screw locking mechanism comprises means for preventing the first and second screw from pulling out of the first and second internal screw guides” (Claim 2)*
- *“wherein the screw locking mechanism comprises a narrow portion that is positioned in the hole and a wider portion that is positioned in the indentation, wherein the narrow portion extends from the wider portion into the hole” (Claim 4)*

6. '633 Patent:

- *“hingedly connected” / “hingedly interconnected” / “hingedly open” (Claims 1, 14, 19)*
- *“pivot” (Claims 1, 14, 19)*
- *“axially aligned” / “axially confined” (Claims 1, 14, 19)*
- *“a mechanism that pivotably moves the first movable portion and the second movable portion with respect to each other to expand a dimension of the expandable intervertebral fusion device” (Claims 1)*
- *“wherein the wedge is configured to slide . . . toward the second and fourth ends” (Claims 1, 14, 19)*
- *“movable portion” (including all iterations, i.e., first, second, third, etc.) (Claims 1, 2, 4, 9, 10, 11, 20)*
- *“end portion” / “end” (including all iterations, i.e., first, second, third, etc.) (Claims 1, 2, 14, 17, 19)*
- *“side portion” (including all iterations, i.e., first, second, third, etc.) (Claims 1, 2, 7, 14, 19)*
- *“engagement surface” (including all iterations, i.e., first, second, third, etc.) (Claims 1, 14, 19)*

7. '183 Patent:

- *“biological bone fusion and screw fusion” (Claims 1, 11)*
- *“a top wall, a bottom wall, and sidewalls defining a fusion material space capable of receiving bone filling for the biological bone fusion” (Claims 1, 19) / “a top wall, a bottom wall, and first and second sidewalls defining a fusion material space capable of receiving bone filling for the biological bone fusion” (Claim 11)*
- *“an internal screw guide having a screw entrance portion and an internal bore portion, wherein the screw entrance portion is larger than and coaxial with the internal bore and is formed at least partially in a top surface of the top wall as viewed from a top of the intervertebral cage” (Claims 1, 11, 19)*

- *“wherein the internal bore portion has an entry opening formed only in a top surface of the top wall as viewed from the top of the intervertebral cage” (Claims 1, 11, 19)*
- *“wherein the internal bore portion . . . has an exit opening formed at least partially in a bottom surface of the top wall and at least partially in a side surface of the top wall” (Claims 1, 11, 19)*
- *“a second internal screw guide having a second screw entrance portion and a second internal bore portion, wherein the second screw entrance portion is larger than and coaxial with the second internal bore and is formed at least partially in the top surface of the top wall as viewed from the top” (Claims 1, 11, 19)*
- *“wherein the second internal bore portion has a second entry opening formed only in the top surface of the top wall as viewed from the top of the intervertebral cage” (Claims 1, 11, 19)*
- *“wherein the second internal bore portion . . . has a second exit opening formed at least partially in the bottom surface of the top wall and at least partially in a second side surface of the top wall” (Claims 1, 11, 19)*
- *“wherein the first slot is positioned along a first centerline axis that bisects the first sidewall and is positioned nearer a top of the intervertebral cage than a bottom of the intervertebral cage” (Claims 1, 11, 19)*
- *“wherein the second slot is positioned along a second centerline axis that bisects the second sidewall and is positioned nearer the top of the intervertebral cage than the bottom of the intervertebral cage” (Claims 1, 11, 19)*
- *“surface features” (Claims 1, 4, 11, 12, 19)*
- *“wherein the side surface and the second side surface of the top wall are patterned with a plurality of surface features to create rough side surfaces, wherein at least some of the plurality of surface features are positioned on the side surface between the top wall and the exit opening” (Claims 1, 11, 19)*
- *“wherein the top wall, the bottom wall, and the sidewalls are integrally formed” (Claims 1, 11, 19)*
- *“wherein the screw entrance portion of the internal screw guide is sized large enough to receive at least part of the first screw head and wherein the internal bore portion of the internal screw guide is sized with a smaller diameter than the screw entrance portion and is sized to receive the first screw shaft of the first screw” (Claims 1, 11)*

- *“a second screw having a second screw head and a second screw threaded portion” (Claims 1, 11)*
- *“a screw locking bracket having a first end portion sized and positioned to be inserted into the first slot, a second end portion sized and positioned to be inserted into the second slot and a central portion extending between the first end portion and the second end portion” (Claims 1, 11)*
- *“wherein when the screw locking bracket is connected to the intervertebral cage with the first end portion in the first slot and the second end portion in the second slot, the central portion partially blocks the screw entrance portion and the second screw entrance portion so as to retain the first and second screws in the internal screw guide and the second internal screw guide while leaving at least a portion of each of the first and second screw heads at least partially visible through gaps between the screw locking bracket and the intervertebral cage” (Claim 1)*
- *“wherein the screw locking bracket abuts both the first and second screw heads when the screw locking bracket is connected to the intervertebral cage” (Claim 2)*
- *“wherein the screw locking bracket is at least partially U-shaped such that the first and second end portions wrap at least partially around the first and second sidewalls” (Claim 3)*
- *“wherein the plurality of surface features on the side surface and the second side surface are patterned all the way next to the top surface of the top wall so as to be adjacent the top surface of the top wall” (Claim 4)*
- *“means for fusing superior and inferior lumbar vertebral bodies in conjunction with the intervertebral cage” (Claims 6, 14) / “means for fusing superior and inferior vertebral bodies in conjunction with the intervertebral cage” (Claim 13)*
- *“wherein the screw locking bracket comprises means to slightly open the screw locking bracket” (Claim 9)*
- *“wherein when the screw locking bracket is connected to the intervertebral cage with the first end portion in the first slot and the second end portion in the second slot, the central portion partially blocks the screw entrance portion and the second screw entrance portion so as to retain the first and second screws in the internal screw guide and the second internal screw guide while leaving at least a portion of each of the first and second screw heads at least partially exposed via gaps between the screw locking bracket and the intervertebral cage” (Claim 11)*

- *“wherein the screw locking bracket has a curvature such that first and second distal ends of the first and second end portions are positioned downward with respect to the central portion when the screw locking bracket is connected to the intervertebral cage” (Claim 11)*
- *“wherein the plurality of surface features on the side surface and the second side surface are patterned at locations next to the top surface” (Claim 12)*
- *“wherein the screw locking bracket comprises means to slightly deform the screw locking bracket to remove the screw locking bracket from the intervertebral cage” (Claim 16)*
- *“wherein the means comprises a flexion portion of the screw locking bracket” (Claim 17)*
- *“wherein the screw locking bracket contacts both the first and second screw heads when the screw locking bracket is connect to the intervertebral cage” (Claim 18)*
- *“screwing the first screw into the first vertebral body such that at least part of the first screw head is positioned in the screw entrance portion of the internal screw guide, at least part of the first screw shaft of the first screw is positioned in the internal bore, and at least part of the first screw threaded portion is positioned in the first vertebral body” (Claim 19)*
- *“screwing the second screw into the second vertebral body such that at least part of the second screw head is positioned in the second screw entrance portion of the second internal screw guide, at least part of the second screw shaft of the second screw is positioned in the second internal bore, and at least part of the second screw threaded portion is positioned in the second vertebral body” (Claim 19)*
- *“locking the first screw and the second screw in the intervertebral cage using a screw locking bracket coupled to the intervertebral cage by positioning a first end portion of the screw locking bracket in the first slot, a second end portion of the screw locking bracket in the second slot and a central portion of the screw locking bracket extending between the first end portion and the second end portion across at least part of the top surface of the top wall such that the central portion partially blocks the screw entrance portion and the second screw entrance portion so as to retain the first and second screws in the internal screw guide and the second internal screw guide while leaving at least a portion of each of the first and second screw heads at least partially visible through gaps between the screw locking bracket and the intervertebral cage” (Claim 19)*

8. '797 Patent:

- *“an expandable intervertebral fusion device comprising first and second movable portions and an expansion mechanism configured to move the first movable portion with respect to the second movable portion, wherein the expansion mechanism comprises at least a rotation screw having a screw head on a threaded shaft.” (Claim 16)*

9. '136 Patent:

- *“a first tool having a first proximal end, a first distal end, and a first elongate body between the first proximal end and the first distal end, wherein the first tool defines a first tool axis from the first proximal end to the first distal end.” (Claim 1, 18)*
- *“wherein the first tool defines an adjusting tool passage through the first tool.” (Claim 1, 18)*
- *“wherein the shaft of the second adjusting tool is sized with a smaller diameter than that of the adjusting tool passage such that the second adjusting tool can extend through the adjusting tool passage of the first tool [and turn within the adjusting tool passage of the first tool].” (Claim 1)*
- *“wherein 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.” (Claim 1, 18)*
- *“wherein the first tool includes a gripper having one or more engagement extensions positioned at the first distal end axially offset from the first tool axis.” (Claim 18)*
- *“wherein the expandable spinal implant defines one or more tool engagement portions sized, shaped, and configured for engaging with the gripper of the first tool” (claim 18)*

10. '755 Patent:

- *“a first shell having a first vertebral-engaging surface and a first opposite surface” (Claims 1, 12)*

- *“a second shell having a second vertebral-engaging surface and a second opposite surface” (Claims 1, 12)*
- *“an expansion mechanism positioned between the first shell and the second shell and configured to expand the artificial expansile spinal implant” (Claims 1, 12)*
- *“the expansion mechanism coupled to the first opposite surface and the second opposite surface” (Claims 1, 12)*
- *“a tool-engagement surface” (Claims 1, 12)*
- *“a threaded body” (Claim 1)*
- *“a turning mechanism” (Claim 1)*
- *“wherein the threaded body has a first end, a second end, and a longitudinal axis between the first end and the second end, the longitudinal axis extending in a direction from the first shell to the second shell;” (Claim 1)*
- *“wherein the expansion mechanism is configured to drive expansion between the first shell and the second shell in response to rotating of a tool engaged with the tool-engagement surface” (Claims 1, 12)*
- *“wherein rotating the tool comprises rotating the tool about a longitudinal axis of the tool while the tool is engaged with the tool-engagement surface” (Claims 1, 12)*
- *“wherein the rotating of the tool causes a rotation of the turning mechanism” (Claim 1) / “wherein the rotating of the tool causes a rotation of the at least one rotating gear such that the at least one rotating gear rotates about the axis passing through the gear” (Claim 12)*
- *“wherein the tool-engagement surface of the expansion mechanism is positioned and configured to be engaged by the tool extending along a direction of insertion” (Claims 1, 12)*
- *“wherein the first shell comprises a first cavity extending from the first vertebral-engaging surface through the first shell to the first opposite surface” (Claims 1, 12)*
- *“wherein the first set of engagement features have substantially conical tips” (Claim 2)*
- *“a second cavity extending from the second vertebral-engaging surface through the second shell to the second opposite surface” (Claim 4)*

- *“wherein the first shell curves continuously around a first perimeter of the first shell” (Claims 5, 18)*
- *“wherein . . . the second shell curves continuously around a second perimeter of the second shell” (Claim 5)*
- *“wherein the first perimeter is shaped to correspond to a shape of a vertebral body” (Claims 6, 19)*
- *“a rotatable gear” (Claim 8)*
- *“means for placement of a bone fusion material.” (Claim 10)*
- *“at least one rotating gear that is configured to rotate about an axis passing through the gear” (Claim 12)*
- *“wherein the axis passing through the gear is perpendicular to the longitudinal axis of the tool” (Claim 17)*

11. '367 Patent:

- *“wherein the wedge is configured to slide within a space defined by the first body and second body in a direction toward the second and fourth ends of the first body and second body from a first wedge position in which the first body and the second body are in a substantially closed position to a second wedge position whereby the angled wedge surface presses against the first interior surface of the first body to move the first body relative to the second body from a compressed configuration to an expanded configuration” (Claim 8)*
- *“without moving the second body” (Claim 8)*
- *“wherein the first body is aligned with the second body such that the first end of the first body is axially aligned with the third end of the second body and the second end of the first body is axially aligned with the fourth end of the second body, wherein the first end portion of the first body and the third end portion of the second body are hingedly interconnected such that the first body can pivot with respect to the second body so as to move the second end portion of the first body away from the fourth end portion of the second body” (Claim 17)*
- *“hingedly interconnected (Claim 17)*
- *“pivot” (Claim 17)*
- *“axially aligned”/“axially confined” (Claim 17)*

- *“wherein the wedge is configured to slide within a space defined by the first body and second body in a direction toward the second and fourth ends of the first body and second body from a first wedge position that allows the first body and second body to pivot to a position that is substantially closed to a second wedge position whereby the angled wedge surface presses against the first interior surface of the first body to hingedly open the first body with respect to the second body” (Claim 17)*
- *“body” (including all iterations, i.e., first, second, third, etc.) (Claims 8, 17)*
- *“end”/“ends” (including all iterations, i.e., first, second, third, etc.) (Claims 8, 17)*
- *“surface” (including all iterations, i.e., first, second, third, etc.) (Claims 8, 17)*

12. '088 Patent:

- *“wherein the first body and the second body are movable relative to one another by actuation of the wedge” (Claim 1)*
- *“wherein the first body and the second body are configured to be movable relative to one another from a first compressed configuration to a second expanded configuration” (Claim 14)*
- *“a longitudinal axis of the wedge” (Claim 14)*
- *“fluoroscopic guidance” (Claim 17)*
- *“body” (including all iterations, i.e., first, second, third, etc.) (Claims 1, 14)*
- *“bone-interfacing surface” (including all iterations, i.e., first, second, third, etc.) (Claims 1, 14)*
- *“portion” (including all iterations, i.e., first, second, third, etc.) (Claims 1, 14)*
- *“angled surface” (including all iterations, i.e., first, second, third, etc.) (Claims 1, 14)*
- *“internal surface” (including all iterations, i.e., first, second, third, etc.) (Claims 1, 14)*

Defendants reserve the right to supplement these contentions as their investigation continues.

Dated: April 28, 2026

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the above and foregoing document has been served on all counsel of record via email on April 28, 2026.

/s/ Christina V. Rayburn
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