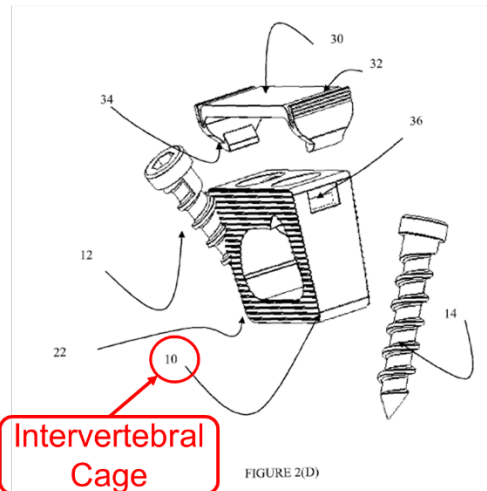
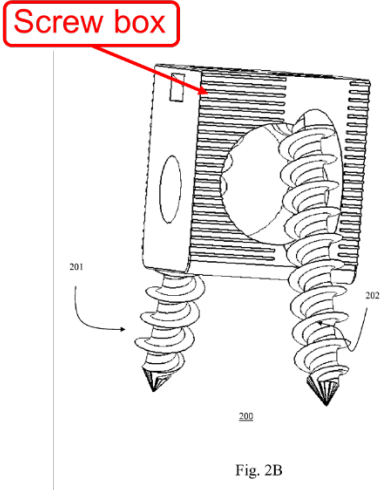


Exhibit G1 – Invalidity of U.S. Patent No. 10,603,183 in view of Moskowitz 440 and Waugh

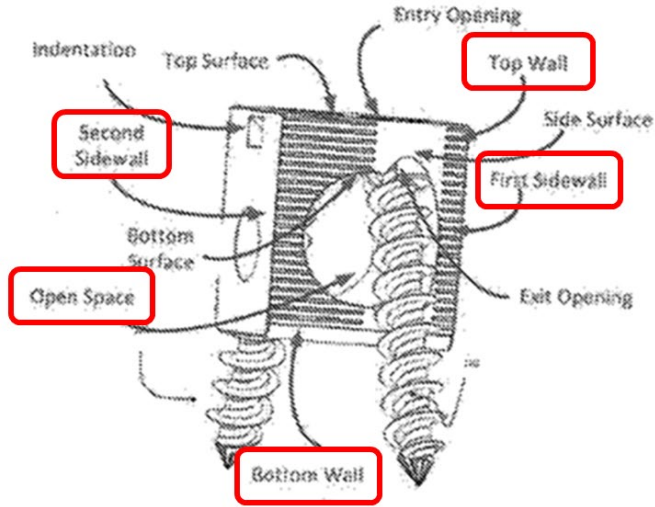
U.S. Patent Application Publication No. 2008/0033440 A1 to Moskowitz et al. (“Moskowitz 440”) in combination with U.S. Patent Application Publication No. 2008/0249569 A1 (“Waugh”) or other prior art identified in the cover pleading and/or discussed below, renders claims 1-4, 6, 8-14 and 16-20 obvious. Moskowitz has claimed a March 6, 2009 priority date for the ’183 Patent. Moskowitz 440 was filed on August 21, 2007, and published on February 7, 2008. Thus, Moskowitz 440 is prior art under at least pre-AIA 35 U.S.C. § 102(b). Waugh was filed on April 3, 2007, and published on October 9, 2008. Thus Waugh is prior art under at least pre-AIA §§ 102(a) and (e). U.S. Patent No. 6,972,019 to Michelson (“Michelson 019”), is also discussed herein for certain claim limitations. Michelson 019 was filed January 23, 2001 and issued on December 6, 2005. Thus Michelson 019 is prior art under at least pre-AIA § 102(b). Nothing in this chart should be construed as an admission of infringement or the correctness of Moskowitz’s interpretation of the claims as reflected in the infringement contentions.

Asserted Claim	Prior Art
Claim 1	
[1A] A intervertebral combination internal screw guide and fixation apparatus configured to be inserted into a disc space between a first vertebral body and a second vertebral body and to provide fusion of the first vertebral body to the second vertebral body via biological bone fusion and screw fusion, the apparatus comprising:	To the extent the preamble is limiting, Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. Figures 2A-2C of Moskowitz 440 disclose an “intervertebral screw box 200 with two BDFT screws 201, 202.” Moskowitz 440 ¶ [0065]. The screw box is designed for insertion into the intervertebral disc space between two adjacent vertebral bodies. <i>Id.</i> ¶¶ [0009]-[0010], [0065]. Once inserted, the BDFT screws engage and penetrate the vertebral bodies above and below the device to link, interlock, and biologically fuse the vertebrae. <i>Id.</i>

Asserted Claim	Prior Art
	Fig. 2A <i>Id.</i> at Fig. 2A (annotated). Screw box 200 “incorporates built-in screw and/or drill guides which allow the direct placement and insertion” of the self-drilling screws in opposing directions. <i>Id.</i> ¶¶ [0010], [0093]. These screw guides have “built-in prescribe angles” that guide the screws through the screw box. <i>Id.</i> ¶ [0013]. BDFT screws are fixation devices. Screw box 200 also includes “holes 208 and hollow spaces allowing packaging with bone,” which facilitates bone fusion. <i>Id.</i> ¶¶ [0002], [0065]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 with U.S. Patent Application Publication No. 2008/0249569 A1 to Waugh et al. (“Waugh”), it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.

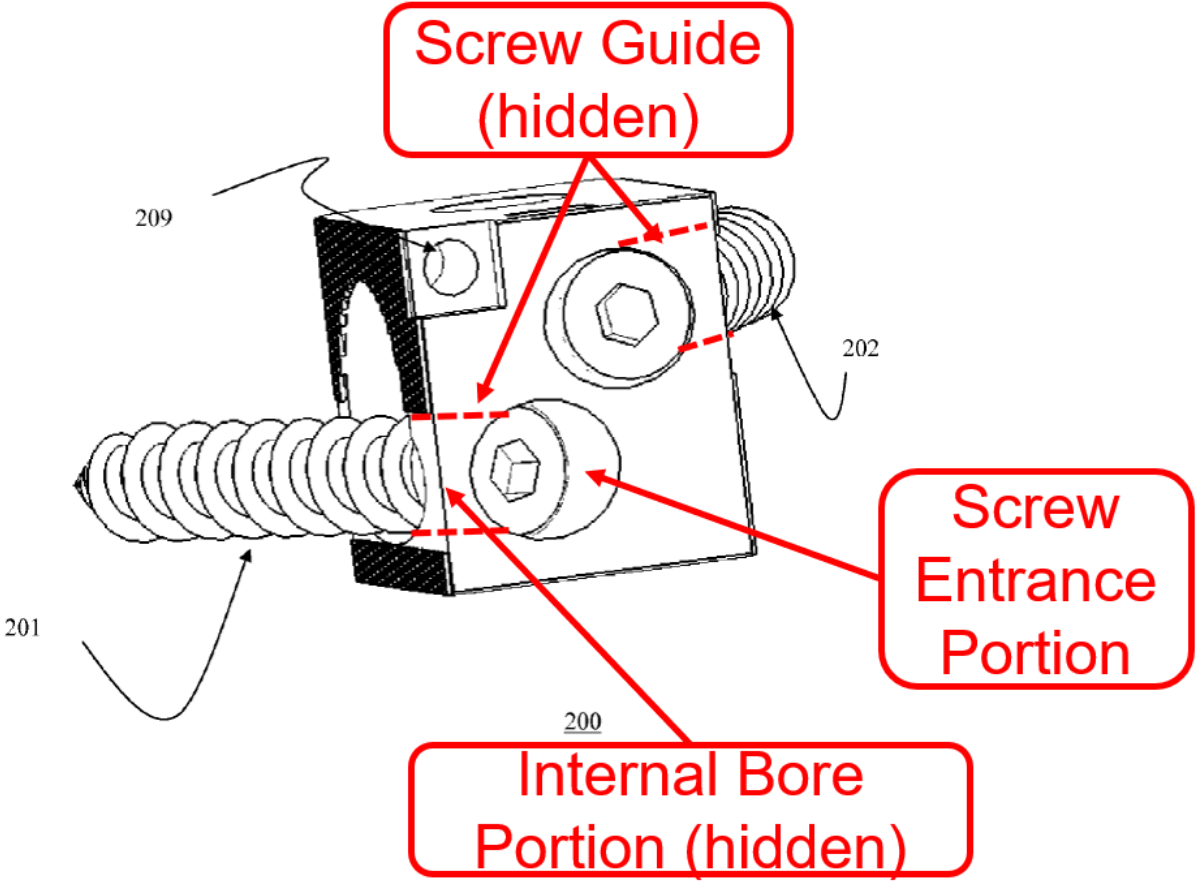
Asserted Claim	Prior Art
[1B] an intervertebral cage including: a top wall, a bottom wall, and sidewalls defining a fusion material space capable of receiving bone filling for the biological bone fusion;	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. The '183 patent defines the box structure including screw guides and a cavity for filling with bone fusion material as an “intervertebral cage 10.” '183 patent at 7:15-17, 7:54-57, Fig. 2D. Screw box 200 of Moskowitz 440 has the same structure as cage 10 of the '183 patent, including screw guides and a hollow space for packaging with bone. <i>See</i> Moskowitz 440 ¶ [0065]. Moskowitz 440 thus discloses “an intervertebral cage.” <u>738 Patent</u>  FIGURE 2(D) <u>Moskowitz 440</u>  Fig. 2B '183 Patent at Fig. 2D; Moskowitz 440 at Fig. 2B (both annotated). As shown in figure 2B below, Moskowitz 440's screw box 200 has four walls – “a top wall, a bottom wall, and sidewalls” as Moskowitz defined them in related prosecution. The top wall is formed at the top of the cage where the screws enter the cage, and the bottom wall is formed opposite the top wall at the bottom-most area of the cage. Those four walls define a central space, as shown below. Moskowitz 440 discloses that its intervertebral device “can be filled with bone fusion material(s)” and specifically,

Asserted Claim	Prior Art
	that screw box 200 has hollow spaces “allowing packaging with bone.” Moskowitz 440 ¶¶ [0002], [0065]. Therefore, Figure 2B has a “fusion material space” that is “capable of receiving bone filling for the biological bone fusion.” Moskowitz 440 at Fig. 2B (annotated). The above analysis is consistent with how Moskowitz has previously defined these structures. During the prosecution of related U.S. Patent No. 11,903,849 (“the ’849 patent”), Moskowitz provided amended figures identifying the “top wall,” “bottom wall,” “sidewalls,” and “open space” (<i>i.e.</i>, a “fusion material space” as explained above) for Figure 2B. <i>Compare</i> Non-Final Rejection dated 9/21/2022 (File History of ’849 patent) at 7 & 9, <i>with</i> Moskowitz 440 at Fig. 2B (reproduced above).

Asserted Claim	Prior Art
	 Fig. 2B Non-Final Rejection dated 9/21/2022 (File History for the '849 patent) at 9 (annotated). To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[1C] 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	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. Moskowitz 440 discloses that the screw box “incorporates built-in screw and/or drill guides which allow the direct placement and insertion of two self drilling screws.” Moskowitz 440 ¶ [0010]. In particular, screw box 200 has “self-contained internalized drill guides.” <i>Id.</i> ¶ [0065], Fig. 2C (reproduced below). Moskowitz 440 thus discloses “an internal screw guide.” <i>Id.</i> As shown in Figure 2C below, screws 201, 202, enter the screw guide (which is partially hidden) via a “screw

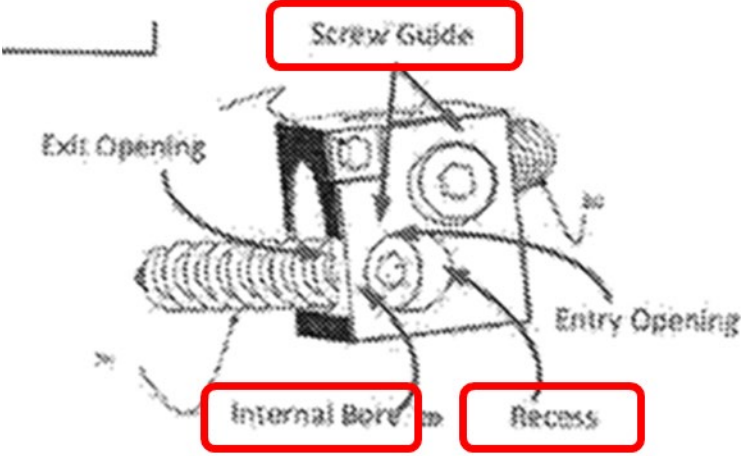
Asserted Claim	Prior Art
bore and is formed at least partially in a top surface of the top wall as viewed from a top of the intervertebral cage, wherein the internal bore portion has an entry opening formed only in a top surface of the top wall as viewed from the top of the intervertebral cage and has 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;	entrance portion,” where the screw head sits when the screw is fully inserted. Deeper into the internal screw guide than the screw entrance portion is an “internal bore portion” of the internal screw guide that receives the threaded portion of a screw. <i>See id.</i> at Fig. 2C (reproduced below).¹ As shown in Figure 2C below, the implant features two “internal screw guide[s],” each of which receive a screw. Therefore, each of the internal screw guides has its own respective “screw entrance portion” and “internal bore portion.”

¹ The term “internal bore” or “internal bore portion” has no textual support in the ’183 patent specification.

Asserted Claim	Prior Art
	 Fig. 2C Moskowitz 440 at Fig. 2C (annotated). This mapping of limitation [1C] is consistent with Moskowitz's representation to the Office, during prosecution of the related '849 patent. During prosecution of the '849 patent, the Patent Office required Moskowitz to show support for structures such as the "internal bore," "top wall," "bottom wall," and

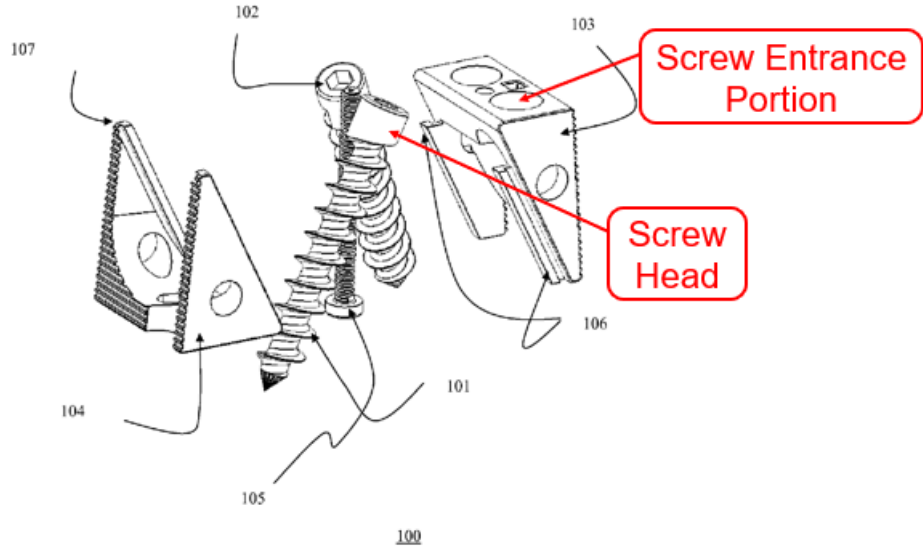
Asserted Claim	Prior Art
	“side wall” in the specification because, like the ’183 patent, the application that ultimately issued as the ’849 patent, also lacked textual support for these features. <i>See</i> Examiner Interview Summary, dated 8/26/2022 (’849 patent File History); Non-Final Rejection dated 9/21/2022 (’849 patent File History) at 3-4 (noting that the claim limitations “are not supported or identified in the Specification”).) Moskowitz then attempted to amend the specification and annotated Figures 2A-2C to show purported disclosure of these claimed structures in the as-filed application. <i>See</i> Non-Final Rejection dated 9/21/2022 at 7-9 (showing annotated figures provided by the applicant during a telephonic interview); Specification dated 12/9/2022 at 1 (amending the specification); Applicant Arguments/Remarks dated 12/9/2022 at 1, 2 (representing that “[n]o new matter is added” by the amendments).) Based on those representations, Moskowitz 440 discloses the limitations found missing by the Examiner during prosecution of the related ’849 patent and therefore also in the ’183 patent. This mapping of limitation [1C] is consistent with Moskowitz’s representation to the Office, during the ’849 prosecution, that Figure 2C discloses a “screw guide,” an “internal bore,” and a “recess.” <i>Compare</i> Drawings, Application Remarks and Specification dated 6/30/2023 (File History for ’849 patent), <i>with</i> Moskowitz 440 at Fig. 2C (reproduced above). The “recess” corresponds to the claimed “screw entrance portion” because, like the “screw entrance portion,” it accommodates a screw head of the screw. Notably, claim 1 of the ’183 patent requires the screw head to be “in the screw entrance portion.” ’183 Patent at 21:5-13. During prosecution of the ’849 patent, then-pending claim 21 recited a “recess sized and shaped to accommodate a screw head,” <i>see, e.g.</i>, Claims dated 12/09/2022 (File History for ’849 patent) at Claim 21, and Moskowitz annotated Figure 2C to show the “recess.” <i>See</i> Non-Final Rejection dated 9/21/2022 at 7, 9. Thus, what Moskowitz now refers to as the “screw entrance portion” is no different than what the Moskowitz previously called the “recess.”²

² Moskowitz has used different (and confusing) terminology for the same structural element across its maze of patent applications. As explained below in [1C], Moskowitz refers to the “**screw entrance portion**” as a “counterbore” in other applications.

	 Fig. 2C. Non-Final Rejection dated 9/21/2022 (File History for '849 patent) at 9 (annotated). Moskowitz 440 further discloses “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” according to Moskowitz’s interpretation during prosecution of the '849 patent. As shown in Figure 2C below, the screw entrance portions cut through the outer “top surface” of the top wall as seen from the top of the implant and are thus “formed at least partially in a top surface of the top wall as viewed from a top of the intervertebral cage.” Moskowitz 440 ¶ [0040] (figure 2C is a superior perspective view). Moreover, the different portions of the screw guide are aligned about a central axis of the screw as shown in Figure 2C above, <i>i.e.</i>, “the screw entrance portion” is “coaxial with the internal bore.”³
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³ There is no discussion of an **“internal bore”** or the claimed **“coaxial”** aspect in the text of the '183 patent.

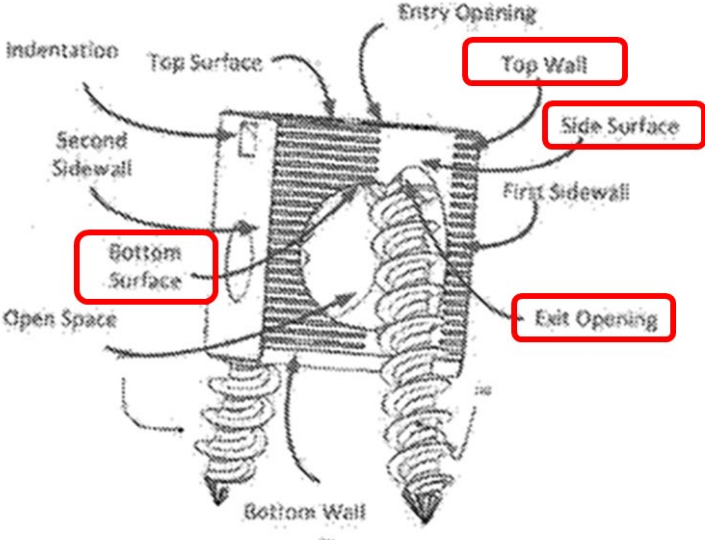
Asserted Claim	Prior Art
	Fig. 2C <i>Id.</i> at Fig. 2C (annotated). The above analysis is consistent with Moskowitz’s prior representations. Moskowitz stated during prosecution of the ’849 patent that the embodiment of Figures 2A-2C shows that the “internal bore is coaxial with <i>the recess</i>,” as recited in then-pending claim 22. <i>See</i> Claims dated 12/9/2022 (File History for ’849 patent) at claim 22 (emphasis added); Applicant Arguments/Remarks dated 12/9/2022 at 1-2 (“the structures recited in the claims . . . appear in Figs. 2A-2C”). As explained above, the claimed “recess” corresponds to the “screw entrance portion” recited in claim 1 of the ’183 patent. Thus, Moskowitz confirmed during prosecution of the ’849 patent that “the screw entrance portion is . . . coaxial with the internal bore portion.” Moskowitz 440 also discloses that the “the screw entrance portion is larger than . . . the internal bore portion” in the sense that the circumference of the screw entrance portion is larger than the circumference of the internal bore. For example, in Figure 2C the screw is inserted at an angle relative to the top surface, which requires the screw entrance portion, which opens on a flat top surface, to be

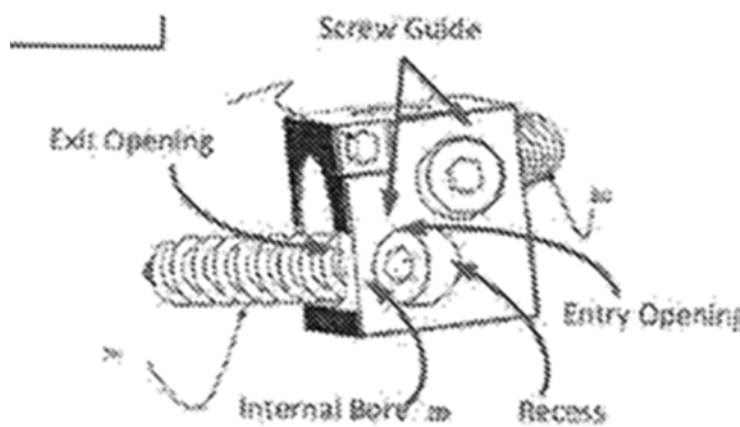
Asserted Claim	Prior Art
	larger in circumference than the screw body, and therefore, larger than the internal bore. <i>See infra</i> at [1H] (explaining that Moskowitz 440 discloses “the internal bore portion of the internal screw guide is sized with a smaller diameter than the screw entrance portion”). Moskowitz’s statements in another related patent further confirm this understanding. While Figures 2A-2C do not depict the implant with screws 201, 202, removed, Moskowitz 440 provides an embodiment in Figures 1A-1E where the entire structure of the screws is visible.  Fig. 1D Moskowitz 440 at Fig. 1D (annotated). Like box 200, box 100 also includes screw guides with screw entrance portions designed to allow insertion of transvertebral screws. <i>Id.</i> ¶¶ [0064]-[0065]. During IPR2020-01308 of U.S. Patent No. 9,889,022, which has the same specification and figures as Moskowitz 440 (<i>compare</i>, U.S. Pat. No.

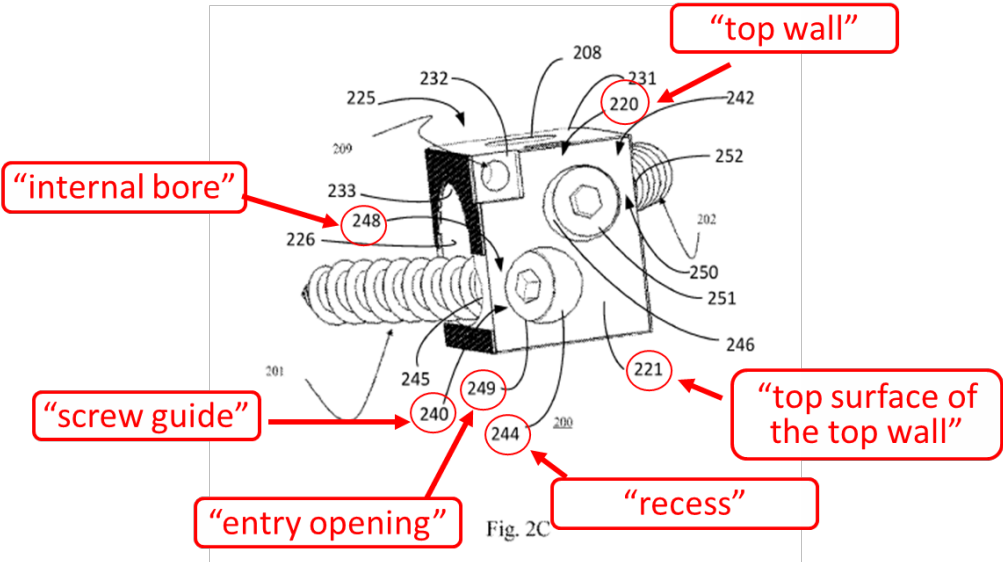
Asserted Claim	Prior Art
	9,889,022, Figs. 1A-1E, <i>with</i> Moskowitz 440 at Figs. 1A-1E), Moskowitz stated that Figures 1A-1E of the '022 patent (which are identical to Figures 1A-1E of Moskowitz 440) disclose a “counterbore that is larger than and coaxial with the internal bore.” Patent Owner’s Preliminary Response, <i>Globus Medical, Inc., v. Moskowitz Family LLC</i>, IPR2020-01308 (October 28, 2020) at 4-5.⁴) Thus, Moskowitz confirmed that Figures 1A-1E of Moskowitz 440 disclose a “screw entrance portion” that is “larger than . . . the internal bore.” A POSITA would have understood that the screws, screw entrance portions, and internal bore portions in the Figure 2A-2C embodiment are similar, if not identical, in form and function to those in the Figure 1A-1E embodiment. For example, screws 101, 102, and screws 201, 202 are all BDFT screws that extend through respective screw boxes in opposing directions, to facilitate bi-directional transvertebral fusion. Moskowitz 440 ¶¶ [0009], [0062], [0064]-[0065], Fig. 1A, Fig. 2A. Moskowitz 440 also teaches that the same surgical method is used for screw boxes 100 and 200, and that in both instances internal screw guides assist with screw placement. <i>Id.</i> ¶¶ [0086], [0089]-[0090], [0093] (“One, two or three screw box embodiments 100, 200, 300 (I-III) or a 2 in 1 construct can be placed. The screw placement is facilitated by the internal screw guides.”). Notably, Moskowitz 440 does not point out any differences in the screws or screw guides across the Figures 1A-1E and Figures 2A-2C embodiments. Thus, from the disclosures in Figures 1A-1D and elsewhere in the specification, a POSITA would have understood that Figures 2A-2C additionally disclose a “screw entrance portion [that] is larger than and coaxial with the internal bore.” Moskowitz 440 further discloses “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 and 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.”

⁴ The term “counterbore” again appears nowhere in the '022 patent specification but is synonymous with “screw entrance portion” because the “counterbore,” like the “screw entrance portion” accommodates a screw head of the screw member. *See* U.S. Patent No. 9,889,022, claim 37.

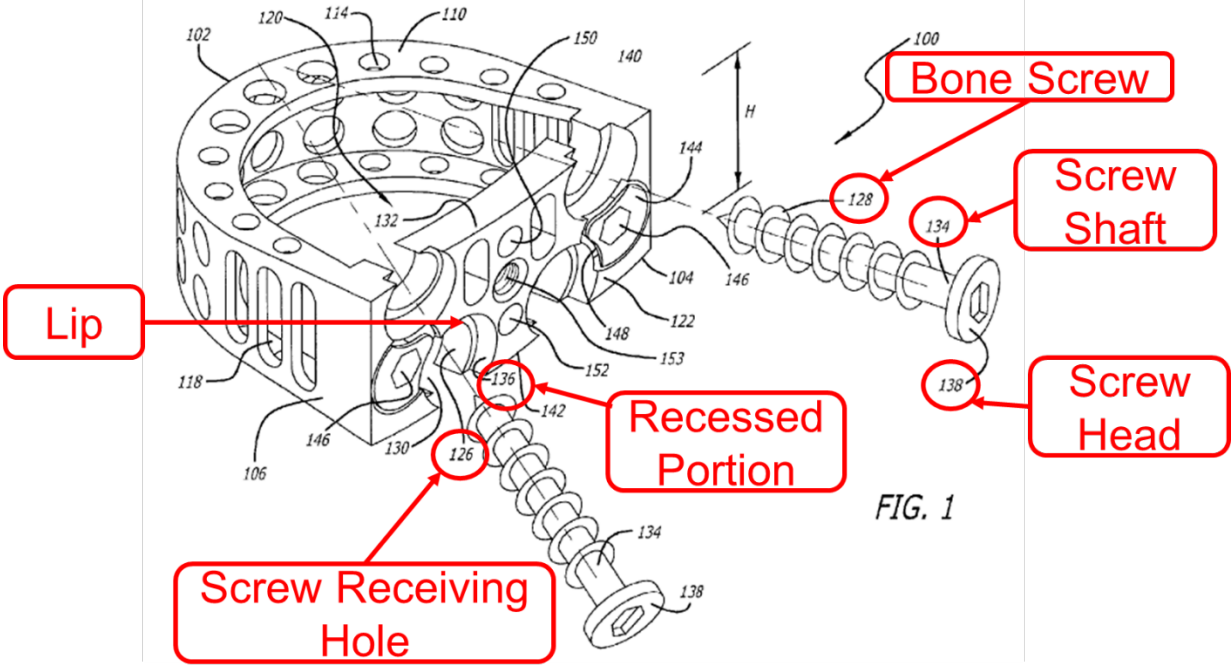
Asserted Claim	Prior Art
	As defined above, the “internal bore” is the portion of the internal screw guide that fits the threaded portion of the screw. Therefore, the “entry opening” of the “internal bore” is where the screw first enters the internal bore when the screw is inserted. Further, as defined above, the outer surface of the “top wall” is the “top surface” of the top wall. Further, as shown below in Figure 2B, opposite the top surface of the top wall is a “bottom surface of the top wall” that is exposed to the “fusion material space” as defined in [1B]. The surface of the top wall adjacent to and extending between the “top surface” and “bottom surface” is a “side surface” of the top wall. Fig. 2B Moskowitz 440 at Fig. 2B (annotated). The screws 201, 202 extend entirely through the internal bore. Moskowitz 440 at Figs. 2A-2C. Therefore, the internal bore has an “exit opening” where the screw exits the internal bore. As shown in Figure 2B (reproduced above), the exit opening is angled and cuts through two planes of the top wall – the side and bottom surfaces of the top wall, as Moskowitz has defined them. The exit opening is

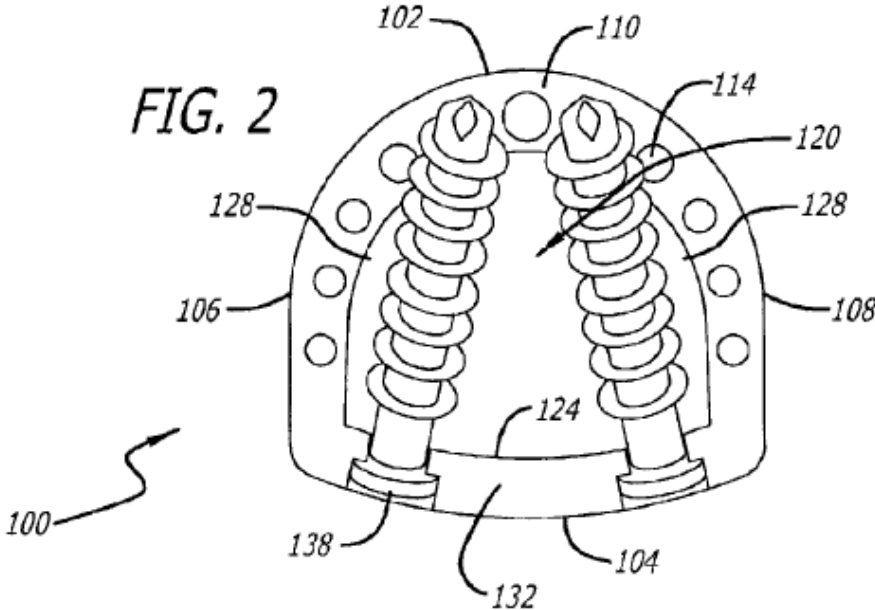
Asserted Claim	Prior Art
	“formed at least partially in a bottom surface of the top wall and at least partially in a side surface of the top wall.” This mapping is consistent with Moskowitz’s previous representations to the Office. As excerpted below, Moskowitz provided annotated Figure 2B of the ’849 patent, signifying Moskowitz’s understanding of the “exit opening,” “bottom surface of the top wall,” and “side surface of the top wall.” Non-Final Rejection dated 9/21/2022 (File History for ’849 patent) at 7, 9.  Non-Final Rejection dated 9/21/2022 (File History for (“the ’849 patent”)) at 9 (annotated). Moskowitz has also previously admitted that Figures 2A-2C disclose limitation [1C], including that “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.” In particular, Moskowitz provided annotated Figure

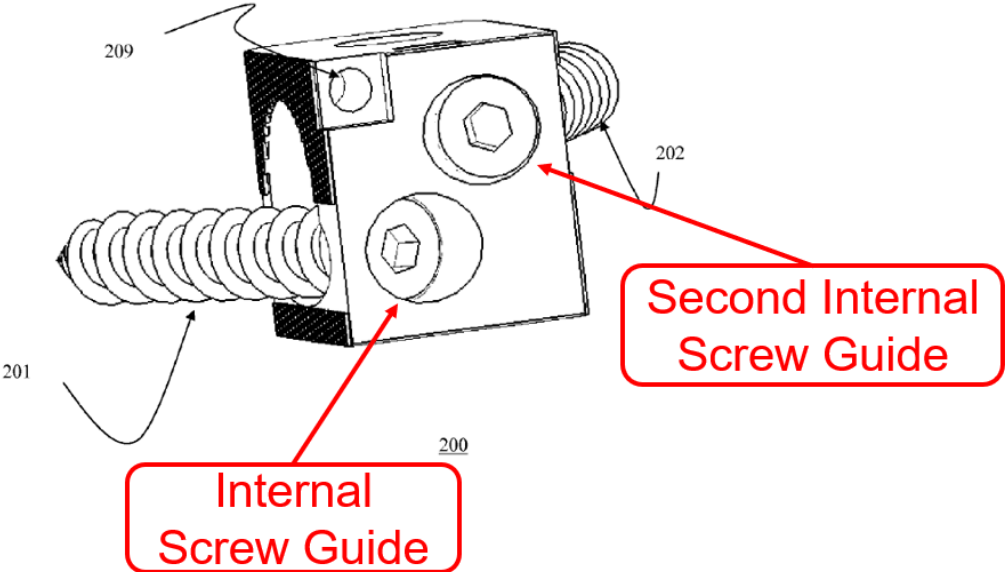
Asserted Claim	Prior Art
	2C of the '849 patent specification, which is the same as Figure 2C of Moskowitz 440, indicating what Moskowitz alleges is the “entry opening” and “exit opening” of the “internal bore.” Non-Final Rejection dated 9/21/2022 (File History for '849 patent) at 7, 9.  Fig. 2C. Non-Final Rejection dated 9/21/2022 (File History for the '849 patent) at 9. Moskowitz also added reference numerals as shown below to Figure 2C to illustrate, <i>inter alia</i>, the claimed “internal bore,” “entry opening,” and “exit opening.” Specification dated 12/9/2022 (File History of '849 patent) at 1; Drawings dated 12/9/2022 (File History of '849 patent) at 3. Moskowitz represented to the Office that the embodiment of Figures 2A-2C shows that the “<i>the entry opening of the internal bore [is] formed only in the top surface of the top wall,</i>” and “<i>the exit opening [is] formed at least partially in the bottom surface of the top wall and at least partially in a side surface of the top wall,</i>” as recited in then-pending claim 21. Claims dated 12/9/2022 (File History of '849 Patent) at claim 21 (emphases added), Applicant Arguments/Remarks dated 12/9/2022 at 1-2 (“the structures recited in the claims . . . appear in Figs. 2A-2C”). Based on Moskowitz’s representations, Figure 2C

Asserted Claim	Prior Art
	of Moskowitz 440 discloses limitation [1C]. Because Moskowitz admitted that Figures 2A-2C shows that the entry opening of the internal bore [is] formed only in the top surface of the top wall, he also necessarily admitted that this feature is true when viewed from the top because the view would not change the basic fact that the entry opening of the internal bore is formed only in the top surface of the top wall.  Fig. 2C Drawings dated 12/9/2022 (File History for '849 patent) at 3. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation. As but one example, it would have been obvious to combine the teachings of Moskowitz 440 with U.S. Patent No. 6,972,019 to Michelson ("Michelson 019"). As discussed herein and in [1D], Moskowitz 440 discloses that "the screw entrance portion is <u>larger</u> than and coaxial with the internal bore

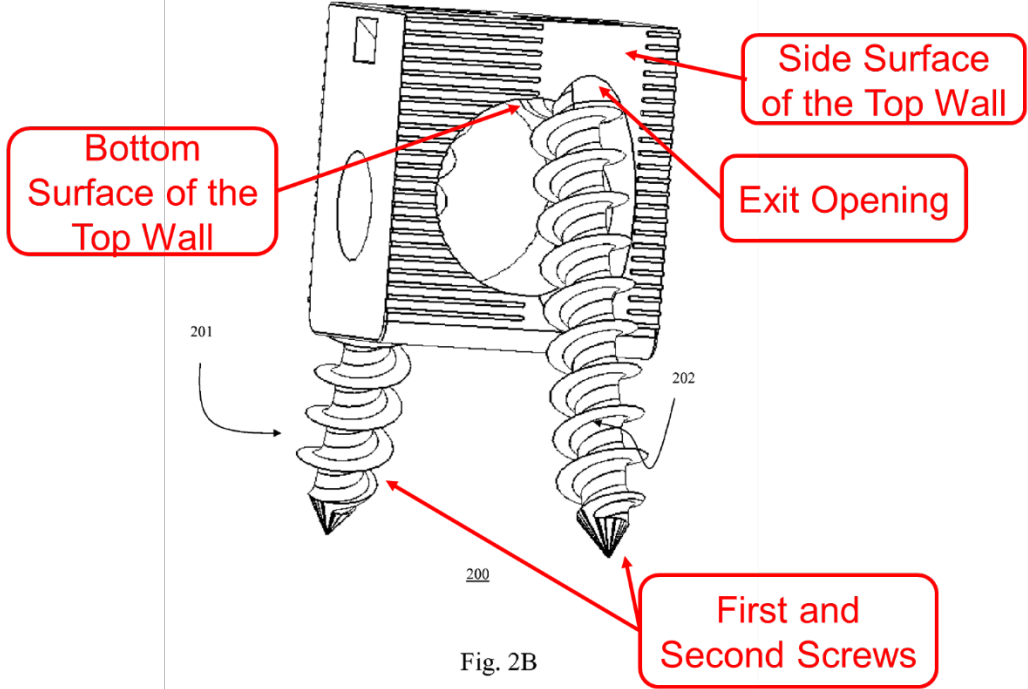
Asserted Claim	Prior Art
	and is formed at least partially in a top surface of the top wall as viewed from a top of the intervertebral cage.” Michelson 019 also discloses such a feature. As shown in Figure 1 below, Michelson 019 discloses bone screw receiving holes 126 (“internal bore”) for receiving bone screws 128. Michelson 019 at 6:41-43. Each of Michelson 019’s bone screws 128 have screw heads 138 that are larger in diameter than the screw shafts 134. <i>Id.</i> at Fig. 2. The screw heads sit inside recessed portion 136, which is a “screw entrance portion.” <i>Id.</i> at 7:21-25. As seen in Figures 1 and 2, there is a lip separating the recessed portion 136 from the bone screw receiving hole 126. This lip engages with the shoulder of the bone screws to “stop the progress of a bone screw through the implant beyond a certain point along the bone screw.” <i>Id.</i> at 7:17-20. Given the lip, the screw entrance portion necessarily has a larger diameter than the internal bore in Michelson 019 (to prevent the bone screw from going beyond a certain point).

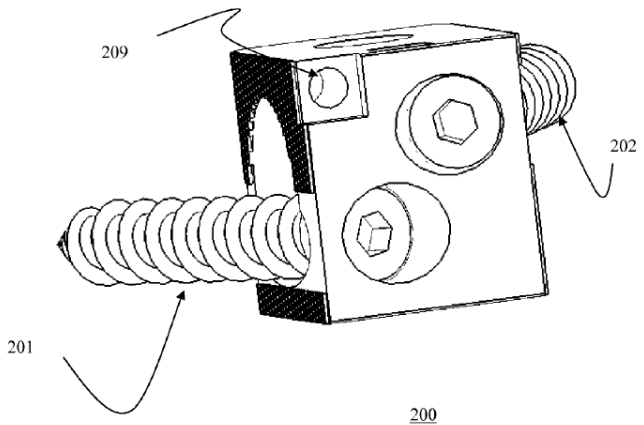
Asserted Claim	Prior Art
	 <i>Id.</i> at Fig. 1 (annotated).

Asserted Claim	Prior Art
	FIG. 2  <i>Id.</i> at Fig. 2. A POSITA would have been motivated to use a screw entrance portion that is larger than the internal bore, like in Michelson 019, with Moskowitz 440's implant because, without the lip, the screws could go through the implant beyond a position along the internal bore. Michelson, 7:17-20. The lip also secures the screws to the implant by <i>e.g.</i>, preventing the screw from moving past a certain position in the implant. For example, without a lip ensuring that an internal bore portion is smaller in diameter than the screw head, over time, the screw could keep advancing through the body of the implant until the implant backs out of the disc space. <i>Id.</i> An implant without such a feature would go against the purpose of Moskowitz 440's screw box 200 to maintain disc space height and to link, interlock, and fuse the adjacent vertebrae <i>Id.</i>; Moskowitz 440 ¶¶ [0006], [0009]. A POSITA would have had a reasonable expectation of success configuring Moskowitz 440's implant to have a lip that prevents a

Asserted Claim	Prior Art
	screw head from moving past a certain position in a structure because having a lip was common in the art and the Moskowitz 440 implant is structurally and functionally similar to Michelson 019's implant.
[1D] 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, 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 and 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, and wherein the internal screw guide and the second internal screw guide are angled to orient a first	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. As discussed in [1C], Moskowitz 440 discloses an implant with two “internal screw guide[s],” each of which has a “screw entrance portion” and an “internal bore portion.” As shown in Figure 2C below, screw box 200 of Moskowitz 440 is a substantially symmetrical implant and screws 201, 202 have the same structure so that the “internal screw guide” and “second internal screw guide” have the same features (though angled in opposing directions), such that the discussion in [1C] regarding the “internal screw guide” equally applies to the “second internal screw guide.” <i>Id.</i>  Fig. 2C

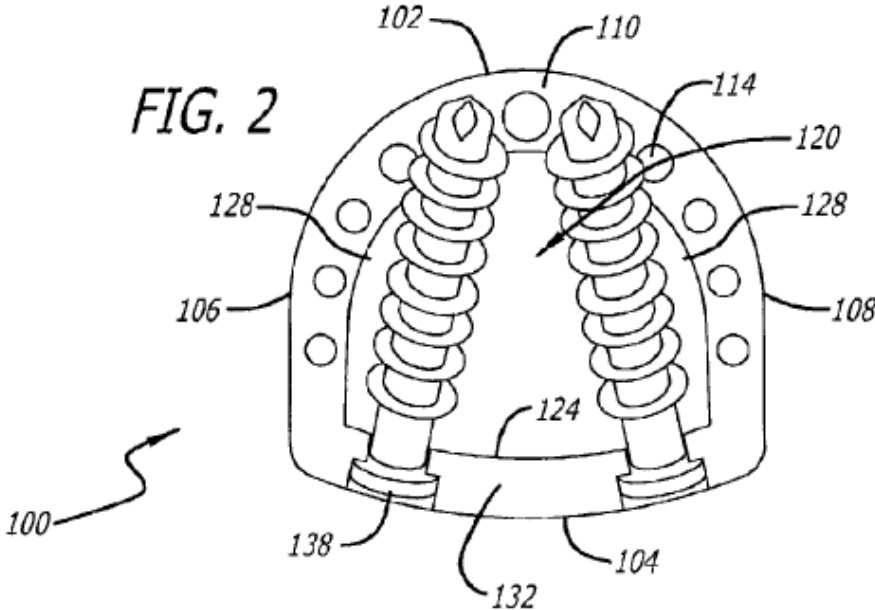
Asserted Claim	Prior Art
screw member and a second member bi-directionally in opposite directions;	Moskowitz 440 at Fig. 2C (annotated). Moskowitz 440 further discloses “wherein the second internal bore portion has a second entry opening formed only in the top surface of the top wall as viewed from the top of the intervertebral cage and 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.” As discussed above, the teachings in Moskowitz 440 regarding the “internal bore portion” also apply to the “second internal bore portion” such that Moskowitz 440 discloses “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.” While the “second exit opening” is not visible in Moskowitz 440’s figures, a POSITA would have understood that there is a “second exit opening” because as shown in Figure 2B below, the second screw goes through the implant. Additionally, a POSITA would have understood that there is a “second side surface of the top wall” and that like the “first exit opening,” the “second exit opening [is] 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,” given the symmetry of the device and opposing screw angles evident from Figures 2B and 2C below.

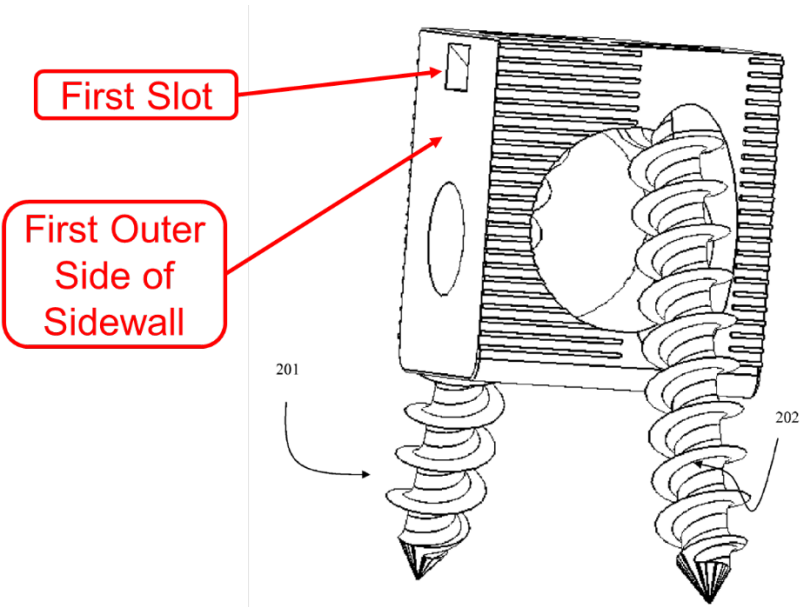
Asserted Claim	Prior Art
	 Fig. 2B

Asserted Claim	Prior Art
	 Fig. 2C Moskowitz 440 at Fig. 2B (annotated), Fig. 2C. Moskowitz 440 thus discloses this limitation for reasons discussed herein and in [1C]. Moskowitz 440 further discloses “wherein the internal screw guide and the second internal screw guide are angled to orient a first screw member and a second member bi-directionally in opposite directions.” As discussed above and in [1C], Moskowitz 440’s implant includes an “internal screw guide” and a “second internal screw guide.” Moskowitz 440’s implant also includes “BDFT screws 201 and 202” that are “a first screw member and a second member.” Moskowitz 440 ¶ [0065]. The internal screw guides orient the screws because, as discussed in [1A], the internal screw guides “allow the direct placement and insertion” of the screws and have “built-in prescribed angles” to guide the screws. <i>Id.</i> ¶¶ [0010], [0013]. Moskowitz 440 further discloses that “screws 201 and 202 perforate [the adjacent vertebral bodies] and orient in opposing, superior and inferior directions.” <i>Id.</i> ¶ [0065].

Asserted Claim	Prior Art
	As shown in Figure 2A reproduced below, the BDFT screws 201 and 202 are bi-directional such that they are angled in opposite directions. Fig. 2A <i>Id.</i> at Fig. 2A (annotated). To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation. As but one example, it would have been obvious to combine the teachings of Moskowitz 440 with Michelson 019. For the reasons discussed herein and in [1C], Moskowitz 440 discloses that “the

Asserted Claim	Prior Art
	second screw entrance portion is <u>larger</u> than and coaxial with the second internal bore and is formed at least partially in a top surface of the top wall as viewed from a top.” Michelson 019 also discloses such a feature. As shown in Figure 1 below, Michelson 019 discloses bone screw receiving holes 126 (“internal bore”) for receiving bone screws 128. Michelson 019 at 6:41-43. Each of Michelson 019’s bone screws 128 have screw heads 138 that are larger in diameter than the screw shafts 134. <i>Id.</i> at Fig. 2. The screw heads sit inside recessed portion 136, which is a “screw entrance portion.” <i>Id.</i> at 7:21-25. As seen in Figures 1 and 2, there is a lip separating the recessed portion 136 from the bone screw receiving hole 126. This lip engages with the shoulder of the bone screws to “stop the progress of a bone screw through the implant beyond a certain point along the bone screw.” <i>Id.</i> at 7:17-20. Given the lip, the screw entrance portion necessarily has a larger diameter than the internal bore in Michelson 019 (to prevent the bone screw from going beyond a certain point).

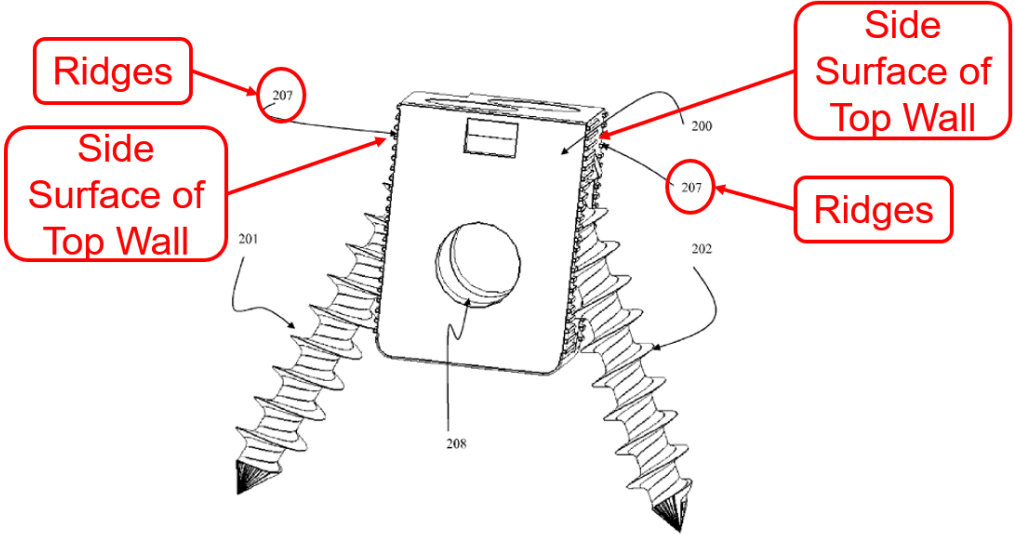
Asserted Claim	Prior Art
	FIG. 2  <i>Id.</i> at Fig. 2. A POSITA would have been motivated to use a screw entrance portion that is larger than the internal bore, like in Michelson 019, with Moskowitz 440's implant because, without the lip, the screws could go through the implant beyond a position along the internal bore. Michelson, 7:17-20. The lip also secures the screws to the implant by <i>e.g.</i>, preventing the screw from moving past a certain position in the implant. For example, without a lip ensuring that an internal bore portion is smaller in diameter than the screw head, over time, the screw could keep advancing through the body of the implant until the implant backs out of the disc space. An implant without such a feature would go against the purpose of Moskowitz 440's screw box 200 to maintain disc space height and to link, interlock, and fuse the adjacent vertebrae. <i>Id.</i>; Moskowitz 440 ¶¶ [0006], [0009]. A POSITA would have had a reasonable expectation of success configuring Moskowitz 440's implant to have a lip that prevents a screw head

Asserted Claim	Prior Art
	from moving past a certain position in a structure because having a lip was common in the art and the Moskowitz 440 implant is structurally and functionally similar to Michelson 019's implant.
[1E] a first slot on a first outer side of a first sidewall of the sidewalls; a second slot on a second outer side of a second sidewall of the 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 sidewall and is positioned nearer a top of the intervertebral cage than a bottom of the intervertebral cage, 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,	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. As shown in Figure 2B, the “first sidewall of the sidewalls” as defined in [1B] of Moskowitz 440's implant has a slot, <i>i.e.</i>, “a first slot” on its “first outer side.”  Fig. 2B

Asserted Claim	Prior Art
	Moskowitz 440 at Fig. 2B (annotated). The interpretation depicted in the figure above is consistent with Moskowitz’s representations to the Office during prosecution of the ’849 patent. <i>See</i> Non-Final Rejection dated 9/21/2022 (File History of ’849 patent) at 7, 9. Moskowitz 440 further discloses “a second slot on a second outer side of a second sidewall of the sidewalls, wherein the second slot is positioned opposite of the first slot.” As discussed above, Moskowitz discloses a “first slot” on a “first sidewall.” Moskowitz 440’s implant is substantially symmetrical, so a POSITA would understand there to be a slot in each of the sidewalls on their respective outer sides. <i>Id.</i>; <i>see also</i> Specification dated 12/9/2022 (File History for ’849 patent) at 1. As discussed in [1B], the two sidewalls are on opposite sides of screw box 200 such that the “second slot is positioned opposite of the first slot.” Moskowitz 440 further discloses “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.” As shown in Figure 2A below, the “first slot” is aligned along the center of the first side wall and is closer to the top surface of the top wall (as defined in [1C]) than the bottom of the implant. Also, as shown in Figure 2A, this “centerline axis” of the first side wall that aligns with the first slot, “bisects the first side wall.”

Asserted Claim	Prior Art
	Fig. 2A Moskowitz 440 at Fig. 2A (annotated). The interpretation depicted in the figure above is consistent with Moskowitz's representations to the Office during prosecution of the '849 patent. <i>See</i> Specification dated 12/9/2022 (File History of '849 patent) at 1; Drawings dated 12/9/2022 (File History of '849 patent) at 2. Moskowitz 440 further discloses “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.” As stated above, Moskowitz 440's implant is substantially symmetrical; thus, the analysis above regarding the that the “first slot” also applies to the “second slot” in this limitation. <i>See also</i> Specification dated 12/9/2022 (File History of '849 patent) at 1; Drawings dated 12/9/2022 (File History of '849 patent) at 1-2.

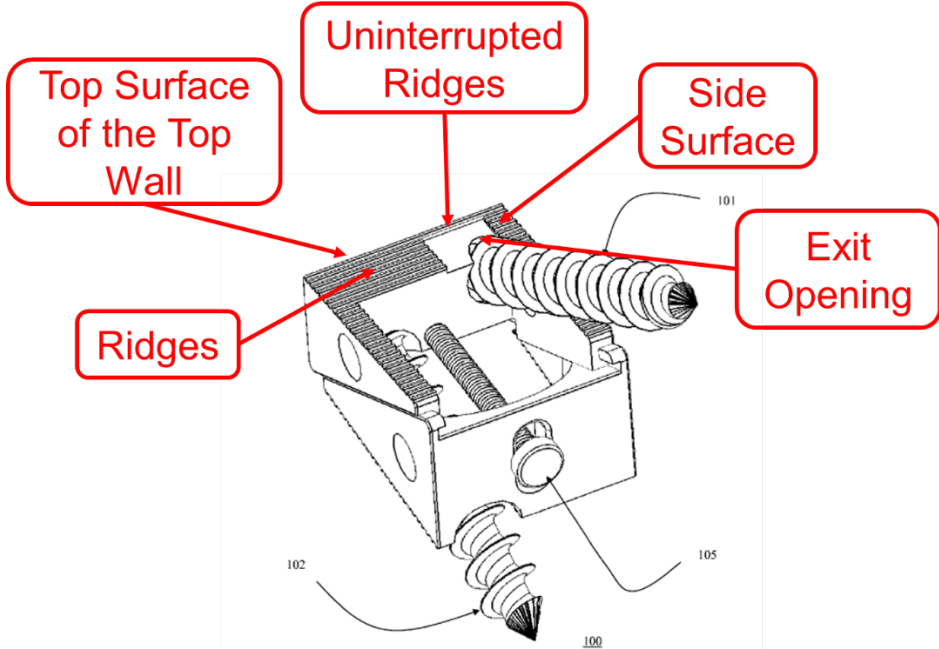
Asserted Claim	Prior Art
	To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[1F] 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, and	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. Moskowitz 440 discloses this limitation. As shown in Figure 2A below, Moskowitz 440 discloses that the “[t]he superior and inferior edges include ridges 207 to facilitate integration and fusion with superior and inferior vertebral bodies.” Moskowitz 440 ¶ [0065]. As discussed in [1C] and [1D], these ridged surfaces are the “side surface” and “second side surface of the top wall.” A POSITA would have understood that ridges 207 disclosed in Moskowitz 440 comprise a “pattern” of “a plurality of surface features” because there are multiple ridges, and ridges 207 create a “rough side surface.”

Asserted Claim	Prior Art
	 Fig. 2A Moskowitz 440 at Fig. 2A (annotated). Moskowitz 440 alone and in combination with Waugh discloses or suggests “wherein at least some of the plurality of surface features are positioned on the side surface between the top wall and the exit opening.”⁵ As shown in Figure 2C below, some of ridges 207, which make up “the plurality of

⁵ Limitations [1F], [11F], and [19F] are awkwardly worded because they recite that at least some of the “surface features” must be positioned “on the side surface *between the top wall and the exit opening*,” while claim limitations [1C], [11C], and [19F] expressly state that the “exit opening” is “*formed at least partially in a bottom surface of the top wall*.” It is logically impossible for surface features to be positioned “on the side surface between the top wall and the exit opening” and for the exit opening to be formed at least partially in the top wall. Nevertheless, in the event that claim limitations [1F], [11F], and [19F] are construed to mean “wherein at least

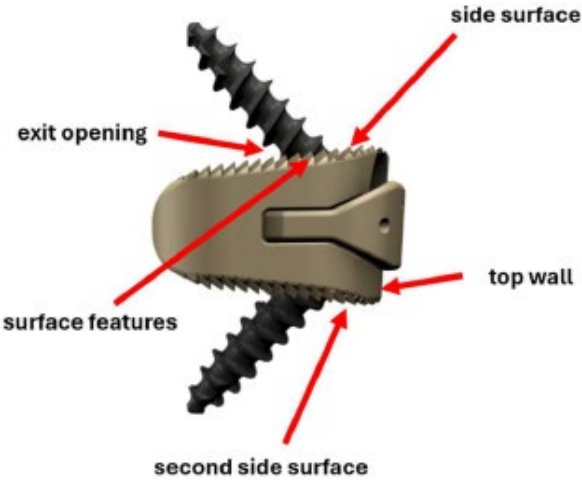
Asserted Claim	Prior Art
	surface features” (See [1F]), “are positioned on the side surface between the top wall and the exit opening” as those structures are defined in [1B] and [1C]. The diagram shows a perspective view of a rectangular block (200) with a threaded rod (201) passing through it. The rod has a hexagonal head (202) on the right. On the left side of the block, there is an exit opening. The top surface of the block is labeled 'Top Surface of the Top Wall'. The side surface of the block is labeled 'Side Surface'. A series of ridges (209) are shown on the side surface, with a gap in the ridges (207) located directly above the exit opening. The ridges are labeled 'Ridges'. Fig. 2C Moskowitz 440 at Fig. 2C (annotated). Although Figure 2C of Moskowitz 440 shows a gap in ridges 207 directly above the exit opening, the claim only requires that “at least some” of the “surface features are positioned on the side surface

some of the plurality of surface features are positioned on the side surface between the top surface of the top wall and the exit opening,” Moskowitz 440 discloses or renders obvious this limitation for the reasons set forth herein.

Asserted Claim	Prior Art
	between the top wall and the exit opening.” Because the top surface of the top wall is a surface that extends across the entire width of screw box 200, some of ridges 207 need only be between some area along the top surface of the top wall and the exit opening. The applicable ridges for this limitation are thus not limited to those that lie directly above the exit opening. Therefore, Figure 2C discloses that at least some of these ridges lie between the top surface of the top wall and the exit opening. Additionally, in another embodiment, Moskowitz 440 shows some uninterrupted ridges across the entire width of the side surface between the top surface of the top wall and the exit opening, as shown in Figure 1C below.  Fig. 1C <i>Id.</i> at Fig. 1C (annotated).

Asserted Claim	Prior Art
	Because Moskowitz 440 discloses that its ridges facilitate incorporation into and fusion with vertebral bodies, <i>see</i> Moskowitz 440 ¶¶ [0064]-[0065], a POSITA would have understood that the arrangement of ridges with more of the side surface covered (like in Moskowitz 440’s Figure 1C) would have been preferred to promote fusion. Moskowitz 440 thus discloses limitation [1F]. Waugh also discloses this limitation. As shown in Waugh’s Figure 3 below, Waugh discloses “bone engaging features 120 configured to reduce slipping or movement of the implant member 102 relative to the vertebrae 14, 16.” Waugh ¶ [0029]. As discussed above, a POSITA would have been motivated to use ridges across the entire width of the side surface in the Moskowitz 440 implant shown in Figure 2C to hold the implant in its proper placement, which will lead to increased fusion with the adjacent vertebral body. A POSITA would have had a reasonable expectation of success in using Waugh’s bone engaging features 120 with Moskowitz 440’s screw box because they are like Moskowitz 440’s ridges in structure, placement, and function, and a POSITA would have had to simply extend the ridges depicted in Moskowitz 440’s Figure 2C.

Asserted Claim	Prior Art
	The diagram shows a perspective view of a medical device with a base and two vertical, threaded components. Red callout boxes with arrows point to specific features: 'Side Surface' points to the side of the base (108); 'Exit Opening' points to a circular opening (120); 'Bone Engaging Features' points to the threads of the vertical components (118); and 'Top Surface of the Top Wall' points to the top surface of the base (116). Other labels include 106, 100, 102, 104, 110, 112a, 112b, and 126. The drawing is labeled 'Fig. 3'. Waugh at Fig. 3 (annotated). The above mappings are consistent with Moskowitz's infringement contentions that were served in this case.

Asserted Claim	Prior Art
	 Moskowitz Infringement Contentions, Ex. G1 at [1F]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[1G] wherein the top wall, the bottom wall, and the sidewalls are integrally formed and the fusion material space for receiving bone graft material extends continuously from an inner surface of the top wall to an inner surface of the bottom wall;	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. As shown in Figure 2B below, the walls of screw box 200 are all joined to form the unitary piece that is the box, such that “the top wall, the bottom wall, and the sidewalls” as defined in [1B] above are “integrally formed.” The open space that is the “fusion material space” is a circular hollow space that extends uninterruptedly about the inner surfaces of the screw box and entirely through it. <i>See</i> Moskowitz 440 at Fig. 2B. Because this space is circular through the inner portion of the screw box, it “extends continuously from an inner surface of the top wall to an inner surface of the bottom wall.”

Asserted Claim	Prior Art
	The diagram, labeled Fig. 2B, shows a cross-sectional view of a device. It features a central cavity. The top boundary of this cavity is labeled 'Top Wall'. The bottom boundary is labeled 'Bottom Wall'. The inner surface of the top wall is labeled 'Inner Surface of the Top Wall'. The inner surface of the bottom wall is labeled 'Inner Surface of Bottom Wall'. The space between the top and bottom walls is labeled 'Fusion Material Space'. Two screw-like structures, labeled 201 and 202, are shown extending from the top and bottom walls into the fusion material space. The entire assembly is labeled 200. <i>Id.</i> at Fig. 2B (annotated). The above mapping is consistent with Moskowitz’s infringement contentions.

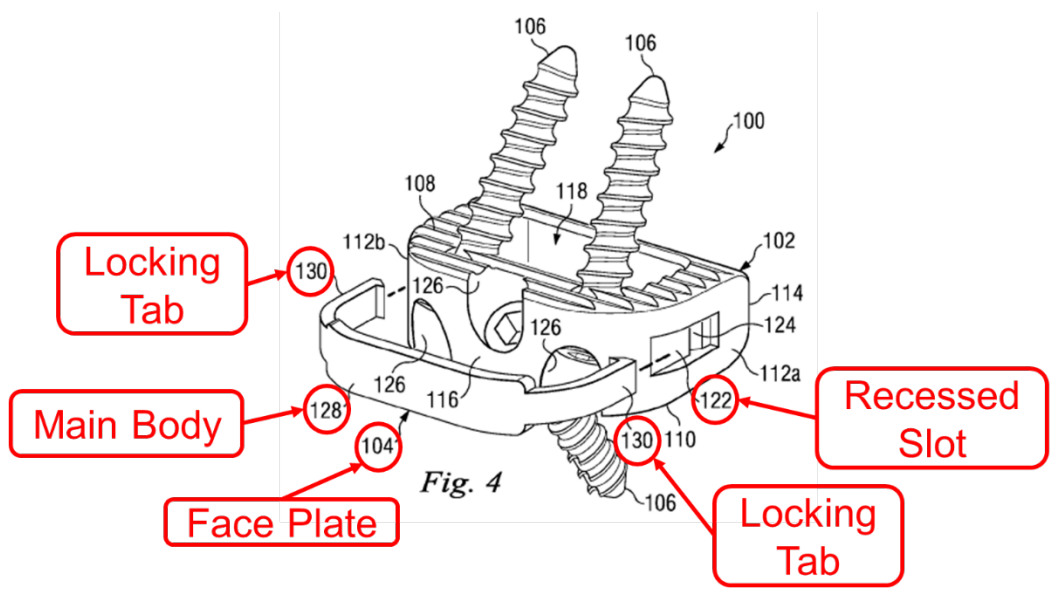
Asserted Claim	Prior Art
	Moskowitz Infringement Contentions, Ex. G1 at [1G]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[1H] a first screw having a first screw head and a first screw shaft having a first screw threaded portion, wherein the screw entrance portion of the internal screw guide is sized large	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. As shown in Figure 2C below, screws 201 and 202 each have a “screw head” and a “screw shaft having a [] screw threaded portion,” <i>i.e.</i>, the portion of the screw with a ridge wrapping around the screw. Moskowitz 440 at Abstract. Additionally, the heads of screws 201, 202 are depicted “in the screw entrance portion[s].” <i>Id.</i> at Fig. 2C; <i>see supra</i> at [1C]. Moskowitz 440 thus discloses “the

Asserted Claim	Prior Art
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;	screw entrance portion of the internal screw guide is sized large enough to receive at least part of the first screw head.” Fig. 2C Moskowitz 440 at Fig. 2C (annotated). A POSITA would have understood that Moskowitz 440 also discloses that the “internal bore portion of the internal screw guide is sized with a smaller diameter than the screw entrance portion.” This smaller diameter internal portion serves to stop the screw from screwing entirely through the implant. Without a smaller internal bore portion, there would be nothing holding the screw to the implant and the implant could back out of the disc space after insertion of the screws. An implant without such a feature would go against the purpose of Moskowitz 440’s screw box 200 to maintain disc space height and to link, interlock, and fuse the adjacent vertebrae; Moskowitz 440 ¶¶ [0006], [0009]. That Moskowitz 440’s screw heads and threaded portion of the screws appear to have approximately the same diameter does not affect this disclosure of an “internal bore portion [having] . . . a smaller diameter than the screw entrance portion.” A POSITA would have understood that a screw shaft has two diameters, a major diameter measured by the outer diameter of the thread, and a minor diameter

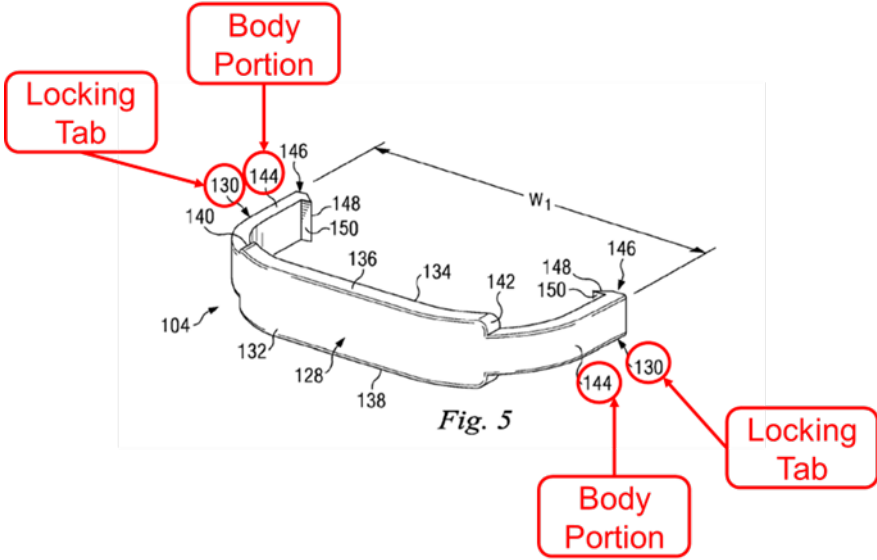
Asserted Claim	Prior Art
	measured by the diameter of the inner core of the screw shaft. A POSITA would have also understood that so long as the diameter of the internal bore is larger than the minor diameter of the screw shaft, the screw shaft's larger major diameter would not prevent it from fitting within the internal bore. Moskowitz 440 thus discloses limitation [1H]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation. As but one example, as discussed in [1C] Moskowitz 440 in view of Michelson 019 also further renders obvious “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.” This limitation and similar limitations [1I], [11H], and [11I] would have been rendered obvious by Moskowitz 440 in view of Michelson 019 because, as discussed above, Michelson 019's internal bores are smaller in diameter than its screw entrance portions. <i>See, e.g.</i>, [1C].
[1I] a second screw having a second screw head and a second screw threaded portion, wherein the second screw entrance portion of the second internal screw guide is sized large enough to receive at least part of the second screw head and wherein the second internal bore portion of the second internal screw guide is sized with a smaller diameter than the second	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. As discussed in [1H], Moskowitz 440 discloses two screws that each fit within the internal screw guide in the same manner. Screws 201, 202 have the same structure and function as part of the BDFT screw construct. Moskowitz 440 at Abstract, ¶¶ [0002], [0009], [0027], [0065], Figs. 2A-2C. Therefore, the analysis in [1H] regarding the “first screw” applies equally to the “second screw.” To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.

Asserted Claim	Prior Art
screw entrance portion and is sized to receive the second screw shaft of the second screw; and	
[1J] 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, 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	Moskowitz 440 combined with Waugh discloses and renders obvious this limitation. Moskowitz 440 discloses a non-expandable spinal implant with screws for securing the implant to the adjacent vertebrae. As shown in Moskowitz 440's Figure 2C, however, Moskowitz 440's implant does not have a locking bracket to prevent screw back-out. Waugh discloses an implant that is similar to Moskowitz 440's Figure 2C (<i>see</i> Figure 4 below) with anchor members 106 (<i>i.e.</i>, screws), but also discloses a "face plate 104" that "reduce[s] the chance of the anchor members 106 backing out of the vertebral bodies over time and causing the implant member 102 to become loose." Waugh ¶ [0031].

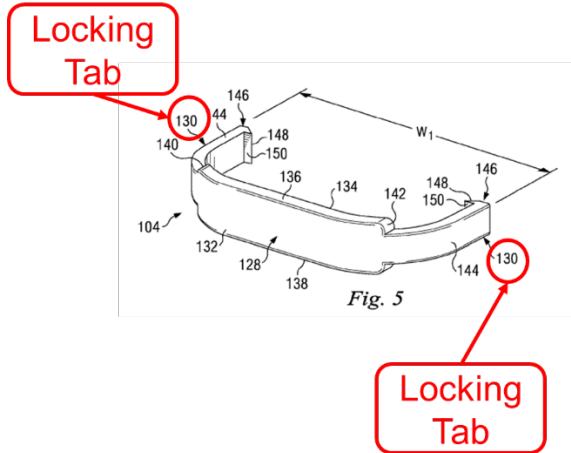
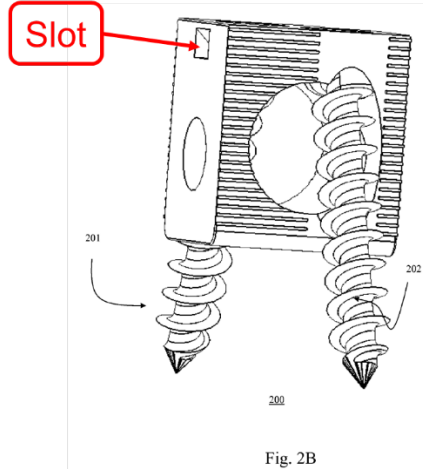
Asserted Claim	Prior Art
least partially visible through gaps between the screw locking bracket and the intervertebral cage.	<i>Id.</i> at Fig. 4 (annotated). As shown in Figure 4 above, face plate 104 “extend[s] across at least a portion of the anchor member apertures 126 [(i.e., screw holes)] and physically block anchor member back-out.” <i>Id.</i> ¶ [0031]. Waugh’s face plate 104 is therefore a “screw locking bracket.” Waugh further discloses that face plate 104 “includes a main body 128 and locking features that cooperate with the implant member 102 to secure the main body 128 in place over the anchor member apertures 126.” <i>Id.</i> ¶ [0031]. The locking features are “locking tabs 130” that extend from the first and second ends 140, 142 of the main body 128. <i>Id.</i> ¶¶ [0031], [0033]. The first of Waugh’s two locking tabs 130 is “a first end portion.” As shown in Figures 4 and 5 below, “[e]ach locking tab 130 includes a body portion 144” that “is

Asserted Claim	Prior Art
	configured to fit within the corresponding recessed slots 122 formed in the side surfaces 122a-b of the implant member 102.” <i>Id.</i> ¶ [0033]. Waugh thus discloses limitation [1J].⁶  <i>Fig. 4</i>

⁶ Before filing the '183 patent, Moskowitz was made aware of Waugh during the prosecution of a related patent application, U.S. Appl. No. 13/418,335 (“the '335 application”). *See* Office Action dated 9/9/2013 at 6-9 (citing Waugh in related U.S. Patent Application No. 13/418,335). Moskowitz knew that Waugh was relevant to the pending claims of the '183 patent because the pending claims of the '335 recited a screw locking bracket that the Office had identified as disclosed in Waugh. Despite this knowledge, Moskowitz did not disclose Waugh to the Office during prosecution of the '183 patent or any patent application in the priority chain of the '183 patent.

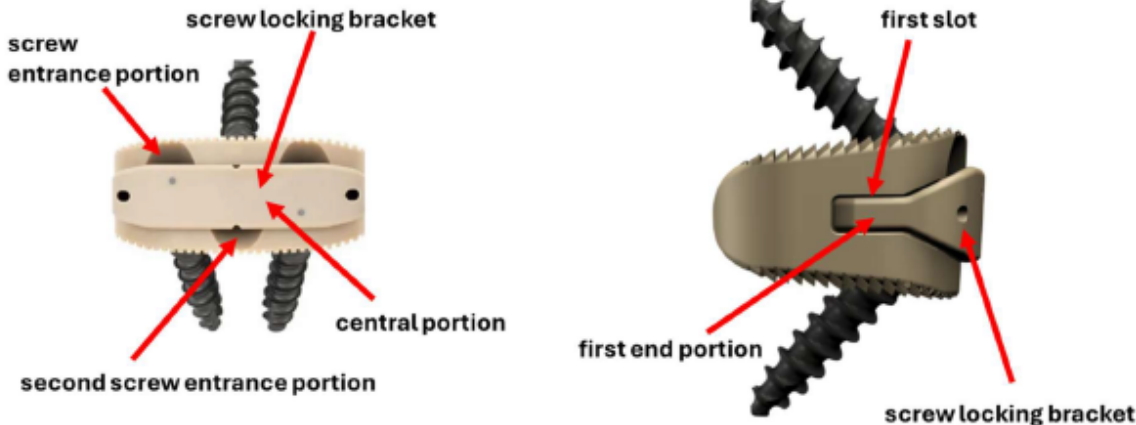
Asserted Claim	Prior Art
	 <i>Id.</i> at Figs. 4-5 (both annotated). In view of Waugh, a POSITA's knowledge, and Moskowitz 440's teachings, a POSITA would have been motivated to combine Waugh's face plate 104 with Moskowitz 440's implant. Waugh teaches that "[o]ver time, due to micro motion of the vertebrae relative to the implant member, the anchor members may loosen and start to back out of the vertebrae." Waugh ¶ [0004]. Waugh's face plate 104 fixes or, at minimum, reduces this issue by covering the screw holes to ensure the anchor members (screws) do not back out. <i>Id.</i> ¶ [0031]. Moskowitz 440's implant would be vulnerable to such back-out because it does not disclose any mechanism to block the screws 201 and 202 from backing out. Thus, a POSITA would have been motivated to look to Waugh's face plate 104 as a solution because Moskowitz's implant does not have any structure that is similar to Waugh's face plate 104. In particular, a POSITA would have been motivated to use Waugh's face plate 104 over other mechanisms to prevent back-out because Moskowitz 440's implant already has indentations/slots on the sidewalls that could interact with the side locking tabs 130 of Waugh's face plate 104, just as Waugh's face plate 104 interacts with recessed slots 122 on Waugh's implant. <i>Id.</i> Given these functional and structural

Asserted Claim	Prior Art
	similarities between the Moskowitz 440 and Waugh implants, a POSITA would have been motivated to use Waugh's face plate 104 to prevent back-out of Moskowitz 440's screws because the modification could be made without otherwise affecting the performance of Moskowitz 440's implant. <i>Id.</i> Furthermore, Waugh's face plate 104 would have allowed a surgeon to use the same structure, <i>i.e.</i>, indentations/slots, for both gripper prongs of a tool for insertion and for attaching the face plate. Waugh ¶¶ [0029], [0033] (teaching that nearly identical slots as those in Moskowitz 440 can be used both "to cooperate with an insertion tool" and to "interface with locking protrusions" of the face plate 104). A POSITA would have had a reasonable expectation of success in configuring and using Waugh's face plate 104 with Moskowitz 440's implant because little to no modifications would have been needed to Waugh's face plate 104 or the slots in Moskowitz 440's implant. As shown in the Figures below, a POSITA would have known Waugh's locking tabs 130 could likewise insert into Moskowitz 440's slots in the sidewalls to attach Waugh's face plate 104 to Moskowitz 440's screw box 200 and that the only modifications required to do so would be to account for the shape and size of the implant and the associated slots in screw box 200. <i>Id.</i> Although Waugh's implant has three screws, a POSITA would have known Waugh's face plate 104 would have also worked with an implant with two screws. <i>Id.</i>

Asserted Claim	Prior Art
	<u>Waugh</u>  Fig. 5 <u>Moskowitz 440</u>  Fig. 2B Waugh at Fig. 5; Moskowitz 440 at Fig. 2B (both annotated). Moskowitz 440 combined with Waugh further discloses and suggests “a second end portion sized and positioned to be inserted into the second slot.” As discussed above, Waugh discloses a face plate 104 (<i>i.e.</i>, “screw locking bracket”) with locking tabs 130 at both the first and second end portions that are inserted in slots in the sidewalls. The second of Waugh’s two locking tabs 130 is thus “a second end portion.” Moskowitz 440 combined with Waugh further discloses and suggests “a central portion extending between the first end portion and the second end portion.” Waugh’s face plate 104 has a main body 128 with locking tabs 130 (<i>i.e.</i>, “the first end portion and the second end portion”) at each end of the main body. The main body 128 is “a central portion extending between the first end portion and the second end portion.”

Asserted Claim	Prior Art
	Waugh at Fig. 5 (annotated). Moskowitz 440 combined with Waugh further discloses and suggests “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.” As discussed in above, the “screw locking bracket” disclosed in Waugh is “connected to the intervertebral cage with the first end portion in the first slot and the second end portion in the second slot.” Waugh further explains that its faceplate 104 “at least partially cover[s] a <i>plurality</i> of anchor member apertures” 126. Waugh ¶ [0007] (emphasis added). And Waugh’s anchor members are screws and anchor member apertures are holes through which Waugh’s screws enter the implant and in which the screw heads sit. <i>Id.</i> ¶ [0006], Fig. 4.

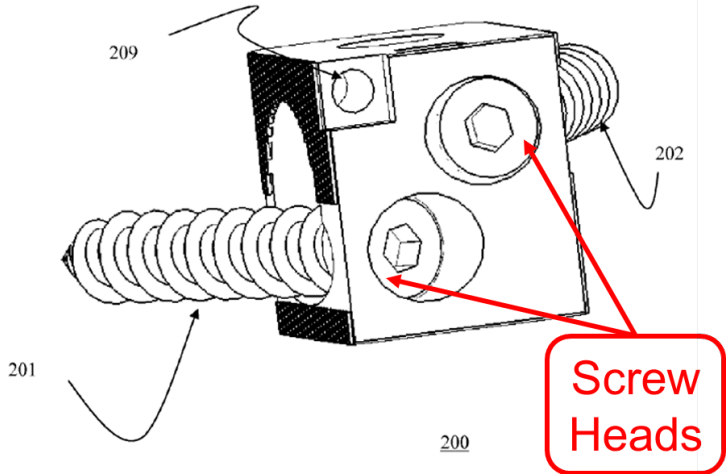
Asserted Claim	Prior Art
	Therefore, Waugh's anchor member apertures are the same as the "screw entrance portion." <i>See supra</i> at [1C]. As shown in Fig. 3 below, when Waugh's faceplate 104 ("the screw locking bracket") is connected to Waugh's cage, main body 128 ("the central portion") partially blocks the anchor member apertures 126 ("the screw entrance portions"), "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." This retains the screws in their respective screw guides since they are blocked from backing out. The combination of Moskowitz 440 and Waugh thus discloses limitation [1J] because, as discussed above, a POSA would have found it obvious to combine Moskowitz 440's implant with Waugh's face plate 104. Waugh at Fig. 3 (annotated).

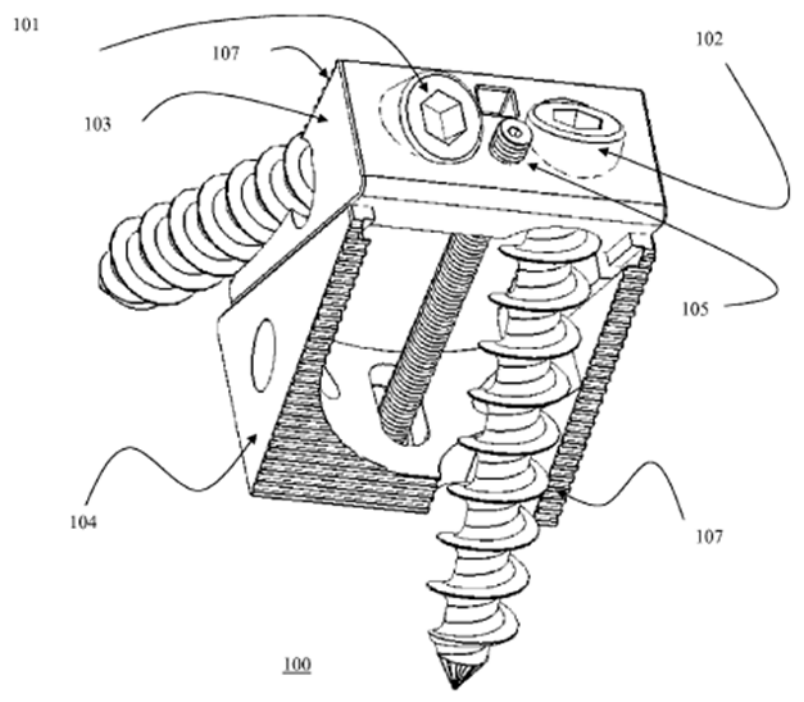
Asserted Claim	Prior Art
	The above analysis is consistent with Moskowitz’s infringement contentions.  <i>See also Claim 1, Row 1E.</i> Moskowitz Infringement Contentions, Ex. G1 at [1J]. Furthermore, the ’183 patent does not identify any benefit associated with having the face plate only partially cover the screw entrance portions. The feature is essentially a design choice and a POSA would have understood that Waugh’s design choice (in leaving the screw entrance portions partially exposed) could be predictably applied to Moskowitz 440’s implant. For example, a POSA would decide between a design that covers more of the screw entrance portion to reduce the possibility of the screw backing out, or a design that covers less of the screw entrance portion to obtain other benefits, <i>e.g.</i>, save material and weight, while increasing bone fusion. Moreover, as shown in Figure 1B of Moskowitz 440, screw heads can protrude above the top surface of the top wall. Moskowitz 440 at Fig. 1B. Thus, a POSA would have understood that when Waugh’s face plate is combined with Moskowitz’s implant, the face plate would contact the screw heads in some configurations where the screw heads protrude (like in Figure 1B of Moskowitz 440) above the top

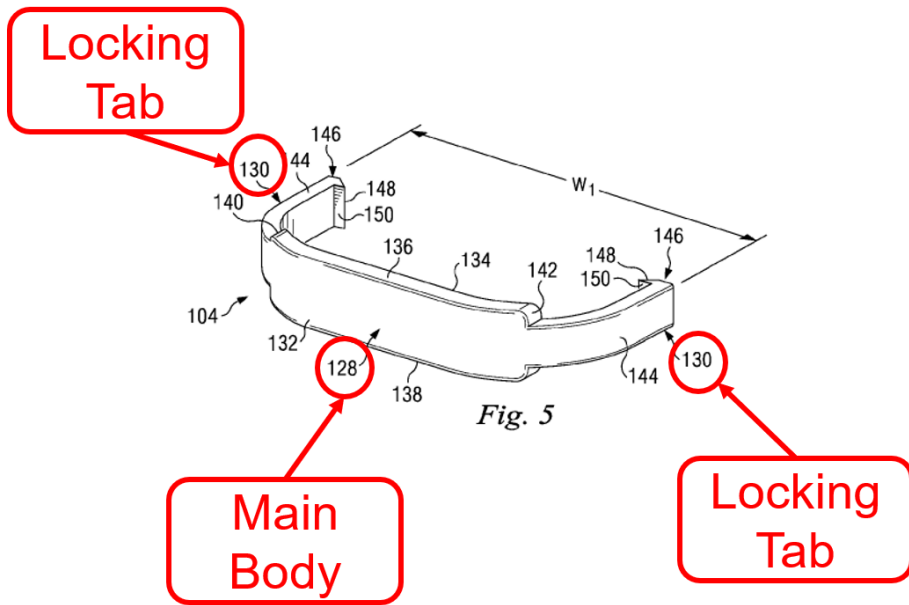
Asserted Claim	Prior Art
	surface of the implant depending on the thickness of the top wall. For example, a POSITA may want to use a thinner top wall (like in Figure 1B) because less implant material allows for more bone graft. A face plate covering such screws will leave a gap between the plate and the cage such that the protruding portion of the screws will be visible from that gap. <i>Id.</i> Fig. 1B <i>Id.</i> To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary

Asserted Claim	Prior Art
	skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 2	
[2] The apparatus of claim 1, wherein the screw locking bracket abuts both the first and second screw heads when the screw locking bracket is connect to [sic] the intervertebral cage.	Moskowitz 440 combined with Waugh discloses and renders obvious Claim 1. <i>See</i> [1A]-[1J]. Moskowitz 440 combined with Waugh further discloses and suggests this additional limitation and renders obvious claim 2. As discussed in [1J], Waugh discloses that when face plate 104 (“screw locking bracket”) is connected, it at least partially blocks the screw entrance portions where the screw heads sit. Waugh further discloses that face plate 104 “physically block[s] anchor member back-out” and inhibits the anchor members 106 from backing out by being physically located within the back-out path. Waugh ¶¶ [0031]-[0032]. As Waugh recognizes, “[o]ver time . . . anchor members 106 may loosen slightly . . . [but] may be unable to back-out because they come into contact with the main body 128 of the faceplate 104.” <i>Id.</i> ¶ [0059]. As shown in Figure 4 below, the tops of Waugh’s screw heads are exposed, such that when face plate 104 is attached, it contacts the screw heads. This contact is shown in Figure 3 below for the center screw head and a POSITA would have understood that face plate 104 similarly contacts the other two screw heads. The Moskowitz-Waugh combination thus discloses claim 2.

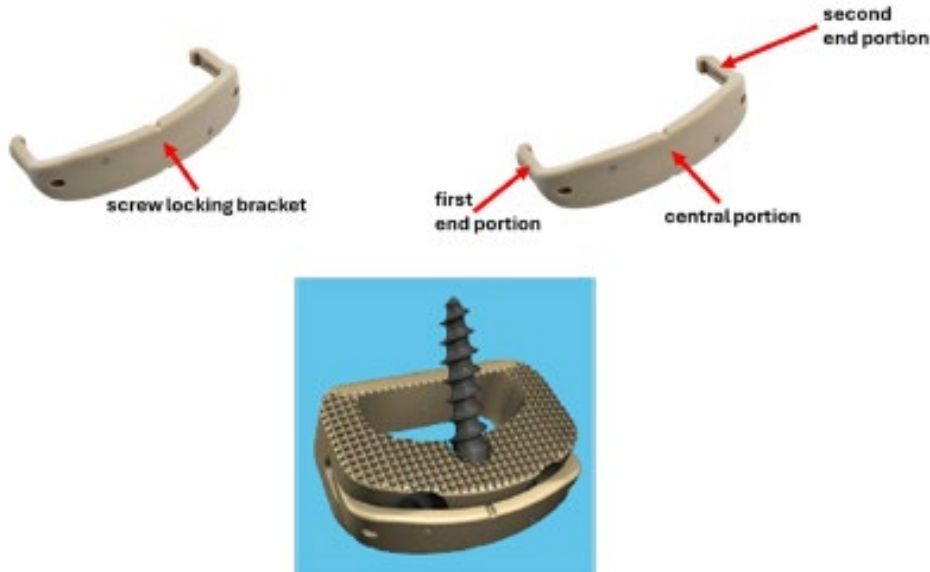
Asserted Claim	Prior Art
	Waugh at Figs. 4, 3 (both annotated). The above analysis would also apply to the combination of Moskowitz 440's screw box 200 and Waugh's face plate 104. Because face plate 104 functions by physically blocking the screws from backing out of vertebrae, a POSITA would have understood that face plate 104 would also contact the heads of Moskowitz 440's screws 201, 202 in the combination of Moskowitz 440 and Waugh. Additionally, as shown in Moskowitz 440 Figure 2C below, just as in Waugh, the heads of screws 201, 202 have portions exposed to the top surface where the screw locking bracket, face plate 104, would sit when connected to the intervertebral cage, screw box 200.

Asserted Claim	Prior Art
	 Fig. 2C Moreover, as shown in Figure 1B of Moskowitz 440, screw heads can protrude above the top surface of the top wall, Moskowitz 440 at Fig. 1B, and in that configuration, the plate will abut with the screw heads. See <i>supra</i> at [1J].

Asserted Claim	Prior Art
	 Fig. 1B Moskowitz 440 at Figs. 2C (annotated), 1B. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.

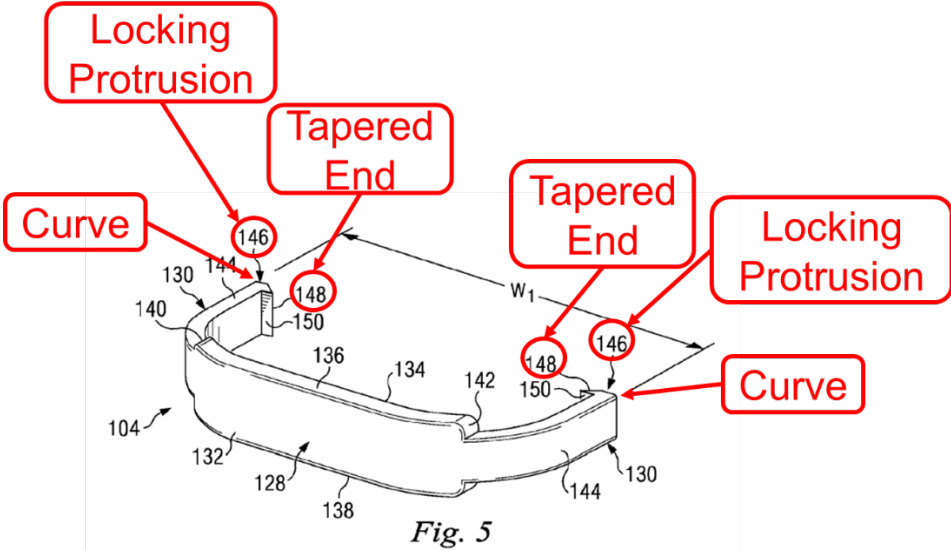
Asserted Claim	Prior Art
Claim 3 [3] The apparatus of claim 1, wherein the screw locking bracket is at least partially U-shaped such that the first and second end portions wrap at least partially around the first and second sidewalls.	Moskowitz 440 combined with Waugh discloses or renders obvious Claim 1. <i>See</i> [1A]-[1J]. Moskowitz 440 combined with Waugh discloses and suggests this additional limitation and renders obvious claim 3. As shown in Figure 5 below, Waugh's locking tabs 130 curve from main body 128 so that “the screw locking bracket is at least partially U-shaped.”  Waugh at Fig. 5 (annotated). The locking tabs 130 also partially wrap around the sidewalls, as shown in Figures 3 and 4 below.

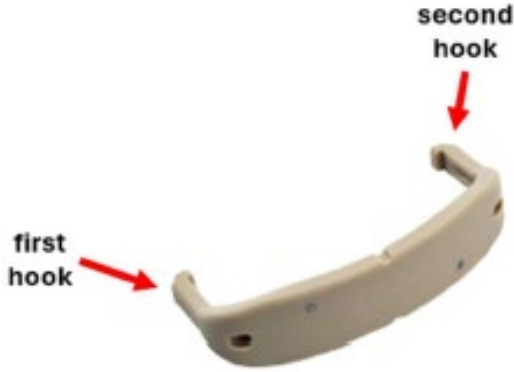
Asserted Claim	Prior Art
	<i>Fig. 4</i> <i>Fig. 3</i> <i>Id.</i> at Figs. 3, 4. The above mapping is consistent with Moskowitz's infringement contentions that were served in this case.

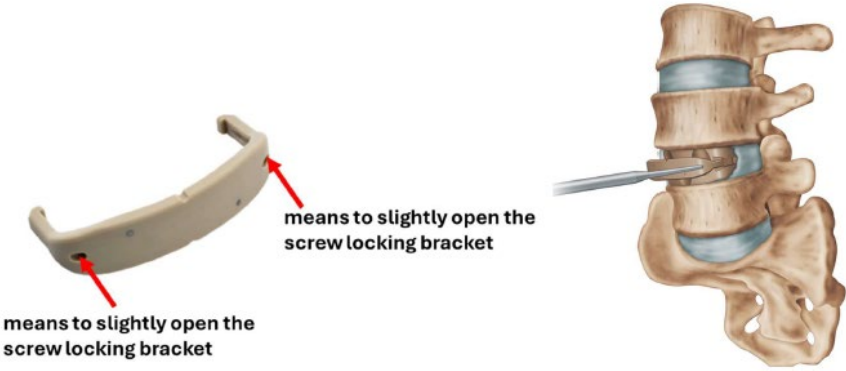
Asserted Claim	Prior Art
	 Moskowitz Infringement Contentions, Ex. G1 at [3]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 4	
[4] The apparatus of claim 1, 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	Moskowitz 440 combined with Waugh discloses or renders obvious Claim 1. <i>See</i> [1A]-[1J]. Moskowitz 440 discloses and suggests this additional limitation and, combined with Waugh, renders obvious claim 4. As shown in Figure 2A below, ridges 207 extend up to the top surface of the top wall.

Asserted Claim	Prior Art
adjacent the top surface of the top wall.	Fig. 2A and Fig. 2B are perspective views of a screw box 200. Fig. 2A shows the box with two screws 201 and 202. Fig. 2B shows the box with one screw 201. Red annotations highlight 'Ridges' (207) on the side walls and the 'Top Surface of Top Wall' (208). The box has a central circular opening 206. Moskowitz 440 at Figs. 2A-2B (both annotated). To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 6	
[6] The apparatus of claim 1, wherein the intervertebral cage is sized and configured for use in a patient's lumbar spine, the apparatus further comprising means for fusing superior and inferior	Moskowitz 440 combined with Waugh discloses or renders obvious Claim 1. <i>See</i> [1A]-[1J]. Moskowitz 440 discloses and suggests this additional limitation and, combined with Waugh, renders obvious claim 6. Moskowitz 440 describes the Figures 2A-2C embodiment as a “[l]umbar intervertebral non-expandable screw box” and discloses that screw box 200 “can be implanted via . . . posterior lumbar interbody fusion (PLIF) or posterior transforaminal lumbar interbody fusion (TLIF).” Moskowitz 440 ¶¶ [0040],

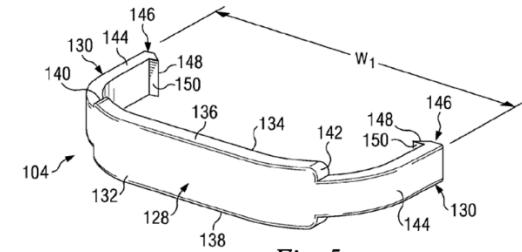
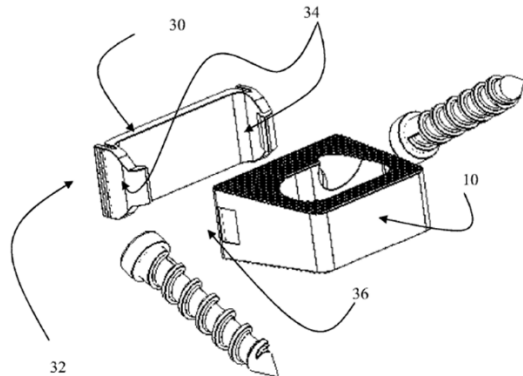
Asserted Claim	Prior Art
lumbar vertebral bodies in conjunction with the intervertebral cage.	[0065], [0086]. Because Moskowitz 440’s screw box 200 is an intervertebral cage (<i>see supra</i> at [1B]), Moskowitz 440 discloses “the intervertebral cage is sized and configured for use in a patient’s lumbar spine.” The structure corresponding to the means recited in claim 6 is ridges that facilitate integration and fusion with superior and inferior vertebral bodies. As discussed in [1F], Moskowitz 440’s screw box 200 has ridges 207. Moskowitz 440 additionally discloses that “ridges 207 [] facilitate integration and fusion with superior and inferior vertebral bodies.” Moskowitz 440 ¶ [0065]. Moskowitz 440 thus discloses the claimed means. In this litigation, Moskowitz has suggested that the means recited in claim 6 is bone graft/fusion material. <i>See</i> Moskowitz Infringement Contentions, Ex. G1 at [6]. To the extent the means recited in claim 6 is so interpreted, Moskowitz 440 discloses that its spacer “can be filled with bone fusion material(s),” Moskowitz 440 ¶ [0002], and more specifically, that screw box 200 has “holes 208 and hollow spaces allowing packaging with bone.” <i>Id.</i> ¶ [0065]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 8	
[8] The apparatus of claim 1, wherein the screw locking bracket comprises a first hook at the first end portion that curves inward to engage the first slot and a second hook at the second end portion that curves inward to engage the second slot.	Moskowitz 440 combined with Waugh discloses or renders obvious Claim 1. <i>See</i> [1A]-[1J]. Moskowitz 440 combined with Waugh further discloses and suggests this additional limitation and renders obvious claim 8. As shown in Figure 5 below, Waugh’s curved locking protrusions 146 (“first hook” and “second hook”) have tapered ends 148 that point towards the center of face plate 104, <i>i.e.</i>, “curve[] inward to engage” “the first slot” and “the second slot.” <i>See supra</i> at [1J], [1E].

Asserted Claim	Prior Art
	 Waugh at Fig. 5 (annotated). The above mapping is consistent with Moskowitz's infringement contentions that were served in this case.

Asserted Claim	Prior Art
	 Moskowitz Infringement Contentions, Ex. G1 at [8]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 9	
[9] The apparatus of claim 1, wherein the screw locking bracket comprises means to slightly open the screw locking bracket.	Moskowitz 440 combined with Waugh discloses or renders obvious Claim 1. <i>See</i> [1A]-[1J]. Moskowitz 440 combined with Waugh discloses and suggests this additional limitation and renders obvious claim 9. In alleging infringement of this limitation, Moskowitz identifies holes in the accused Coverplate that can receive a Coverplate Remover tool.

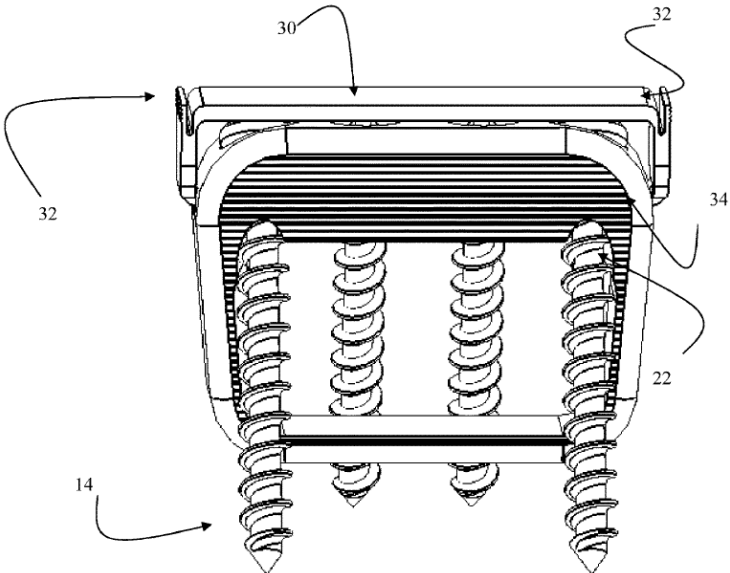
Asserted Claim	Prior Art
	 The diagram shows a perspective view of a curved, C-shaped screw locking bracket on the left. Two red arrows point to the ends of the bracket, each with the text "means to slightly open the screw locking bracket". To the right is a sagittal cross-section of a vertebra with a screw inserted into the vertebral body. The screw has a hexagonal head, and the bracket is positioned around it, with its ends fitting into the hexagonal head. <i>See Moskowitz Infringement Contentions, Ex. G1 at [9].</i> Waugh discloses that when attaching face plate 104 to implant member 102, “locking tabs 130 may be configured to elastically deform when placing the faceplate 104 on the implant member 102,” and that this is achieved when “the tapered surfaces 148 of the locking protrusions 146 contact the implant member 102 and are elastically forced apart.” Waugh ¶¶ [0035], [0058].

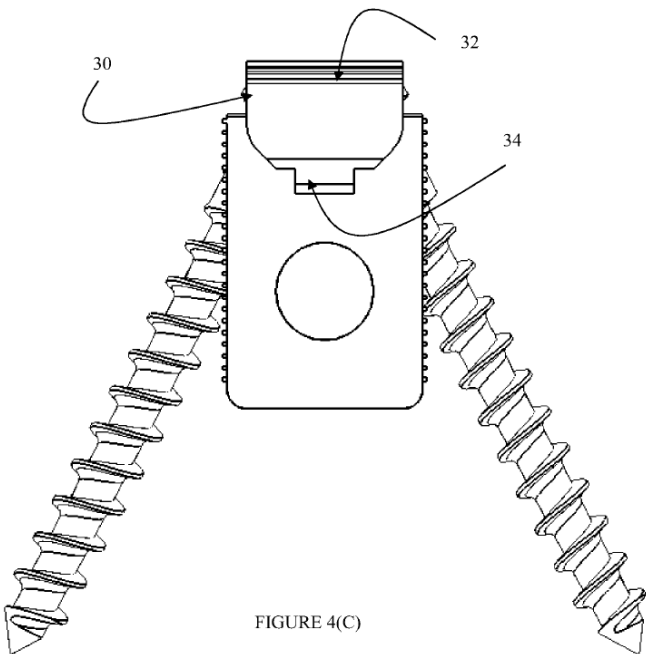
Asserted Claim	Prior Art
	fasteners, such as screws or staples. To do this, in the embodiment shown, the locking tabs 130 may be configured to elastically deform when placing the faceplate 104 on the implant member 102, and then snap into place, thereby securing the faceplate 104 onto the implant member 102 and physically limiting back-out of the anchor members 106 from the implant member 102. Waugh ¶ [0035]. Once there, the faceplate 104 snaps onto the implant member 102 because the locking tabs 130 deform toward their original positions as the locking protrusions 146 at least partially snap into the connecting impressions 124. The locking surface 150 on the locking protrusion 146 engages against the connecting impressions 124 and resists detaching the faceplate 104 from the implant member 102. <i>Id.</i> ¶ [0058]. The locking tabs 424, like those described with respect to other embodiments herein, may be configured to elastically deform when placing the face plate 404 on the implant member 402, and then snap into place, thereby securing the face plate 404 onto the implant member 402 and physically limiting back-out of the anchor members from the implant member 402. <i>Id.</i> ¶ [0054]. The locking tabs 322, like those described with respect to other embodiments herein, may be configured to elastically deform when placing the face plate 304 on the implant member 302, and then snap into place, thereby securing the face plate 304 onto the implant

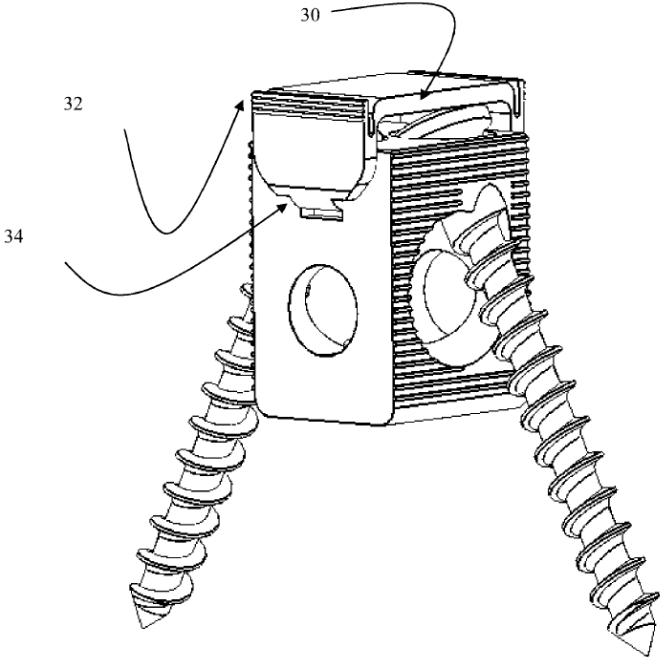
Asserted Claim	Prior Art
	member 302 and physically limiting back-out of the anchor members from the implant member 302. <i>Id.</i> ¶ [0048]; <i>see also id.</i> ¶¶ [0043], [0006], [0008]. Further, similar to the “deformable” screw locking bracket of the ’183 patent, Waugh discloses that its face plate can be made of PEEK, which is a deformable thermoplastic material. <i>See</i> ’183 patent, 9:26-32; Waugh ¶ [0037]. Waugh’s face plate 104 also has the same geometry as the ’183 patent’s screw locking bracket 30 (as shown below) and is inserted in the same manner as the ’183 patent’s screw locking bracket 30. Compare Waugh at Fig. 5, <i>with</i> ’183 Patent at Fig. 2(E); <i>compare</i> Waugh ¶ [0035] (disclosing that Waugh’s “faceplate 104 may be configured to snap onto the implant member”), <i>with</i> ’183 Patent at 9:5-8 (disclosing that the ’183 patent’s screw locking bracket 30 is “press fit . . . onto the cage).) <u>Waugh</u>  Fig. 5 <u>'738 Patent</u>  FIGURE 2(E) Waugh at Fig. 5; ’183 patent at Fig. 2(E).

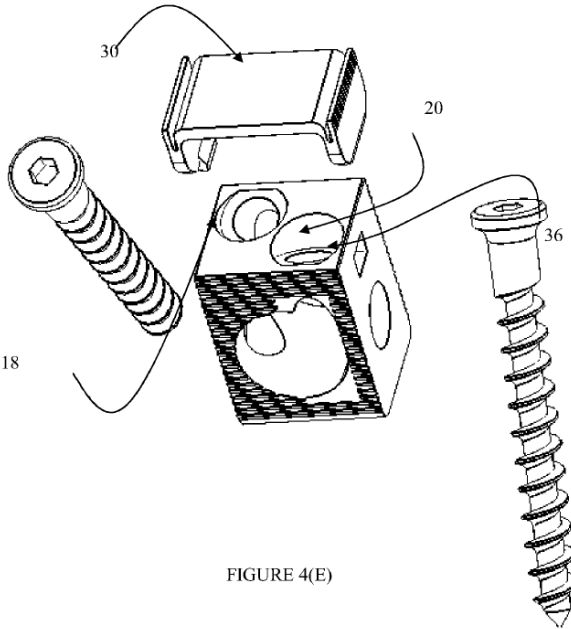
Asserted Claim	Prior Art
	Based on these similarities, a POSITA would understand that the arms of Waugh’s various faceplate embodiments are elastically deformable, and could be bent outward from the cage by applying pressure in order to remove the faceplate from the implant to slightly open the screw locking bracket. As such, this limitation would have been obvious to a POSITA in view of the disclosure of Waugh. Waugh thus discloses or renders obvious “means to slightly open the screw locking bracket.” To the extent “means to slightly open the screw locking bracket” invokes 112(6), the ’183 Patent specification states: • “In order to remove the bracket 30; if it becomes necessary to remove the cage 10 at some future time, flexion grips (side tabs) 32 have been designed on the bracket 30. The locking bracket 30 can be applied to the construct 10 with the specially designed pliers (exemplarily described with reference to FIG. 5) which press fit the bracket 30 onto the cage 10 thereby locking the screws 12, 14. In order to remove the bracket 30, the user needs only to press on the side tabs 32 with the pliers (FIG. 5) to slightly deform (open) the bracket hooks 34, and thereby easily remove the bracket.” ’183 Patent at 8:54-64; • “The side tabs 32 of the screw locking horizontal bracket 30 include bracket flexion grips. The screw locking horizontal bracket 30 can be deformable. The screw locking horizontal bracket 30 can be deformable under pressure applied to the bracket flexion grips.” <i>Id.</i> at 9:26-31. • “In order to remove the bracket 30, the user needs only to press on the side tabs 32 with the pliers (FIG. 5) to slightly deform (open) the bracket hooks 34, and thereby easily remove the bracket 30.” ’183 Patent at 10:9-12; <i>see also id.</i> at 11:50-53; • “The method can further include unlocking the first screw member and the second screw member, wherein the intervertebral cage includes hook insertion slots, wherein the screw locking horizontal bracket includes a cover portion extending in a direction of a longitudinal axis of the intervertebral cage and substantially

Asserted Claim	Prior Art
	parallel to a top face of the intervertebral cage, the cover portion covering and locking the first screw member and the second screw member in the intervertebral cage, side tabs on each end of the cover portion, wherein the side tabs extend in a direction perpendicular to the cover portion along the sides of the intervertebral cage, and wherein the side tabs include bracket hooks extending from the side tabs and lockingly engaging the hook insertion slots of the intervertebral cage, and <i>bracket flexion grips</i> for deforming the screw locking horizontal bracket, wherein <i>the unlocking includes applying pressure to the bracket flexion grips to deform the screw locking horizontal bracket</i> such that the side tabs of the screw locking bracket move away from the intervertebral cage and release the bracket hooks of the screw locking horizontal bracket from the hook insertion slots of the intervertebral cage.” <i>Id.</i> at 19:44-65. The side tabs 32 that are pressed with the pliers (Fig. 5) are shown in the relevant figures of the '183 Patent. <i>See, e.g.:</i>

Asserted Claim	Prior Art
	 FIGURE 3(C) <i>Id.</i> at Fig. 3C; <i>see also</i> Figs. 3A-3B, 3D-3F.

Asserted Claim	Prior Art
	 FIGURE 4(C) <i>Id.</i> at Fig. 4C;

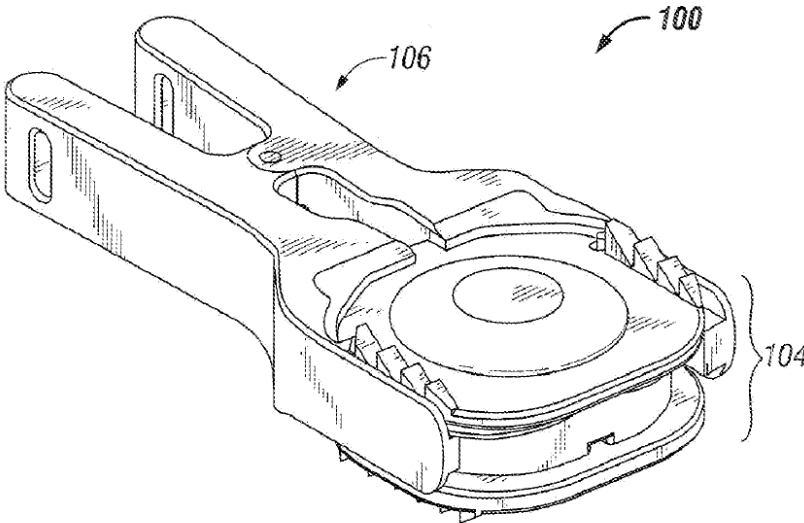
Asserted Claim	Prior Art
	 FIGURE 4(D) <i>Id.</i> at Fig. 4D;

Asserted Claim	Prior Art
	 FIGURE 4(E) <i>Id.</i> at Fig. 4E; <i>see also</i> Fig. 4A-4B, 4F. The fact that the “means to slightly open the screw locking bracket” described by the ’183 Patent require side tabs (or “flexion grips”) 32 that must be depressed is also made clear by the tool shown in Figure 5, which is designed to engage ridges on these side tabs and press inward to deform the bracket hooks of the bracket. <i>See, e.g.:</i>

Asserted Claim	Prior Art
	FIGURE 5 <i>Id.</i> at Fig. 5. The specification’s description with respect to this tool and its operation further confirms this specific design. <i>See, e.g., id.</i> at 12:9-16 (“the first arm includes an upper plier tip 42 and the second arm includes a lower plier tip 44, wherein the first arm and the second arm engage the bracket flexion grips 32, wherein the upper plier tip 42 and the lower plier tip 44 each include a stop 46 configured to engage the bracket flexion grips 32, and a leaf spring 48 between the first arm and the second arm, wherein the leaf spring biases the first hand portion away from the second handle portion.”) In the event “means to slightly open the screw locking bracket” invokes 112(6), it would have been obvious to a POSITA to include deformable side tabs, as disclosed in the ’183 Patent, that could be pressed together in order to deform and release the faceplate embodiments taught by Waugh. Further, detachable structures with deformable tabs that are pressed or squeezed together in order to slightly open the structure for release were well-known in the art. For example, US Patent No. 8,579,911 (“Dudasik”) discloses surgical implant insertion and removal tools having squeezing handles or tabs that, when pressed together, pivot and cause jaws to articulate and release from the implant.

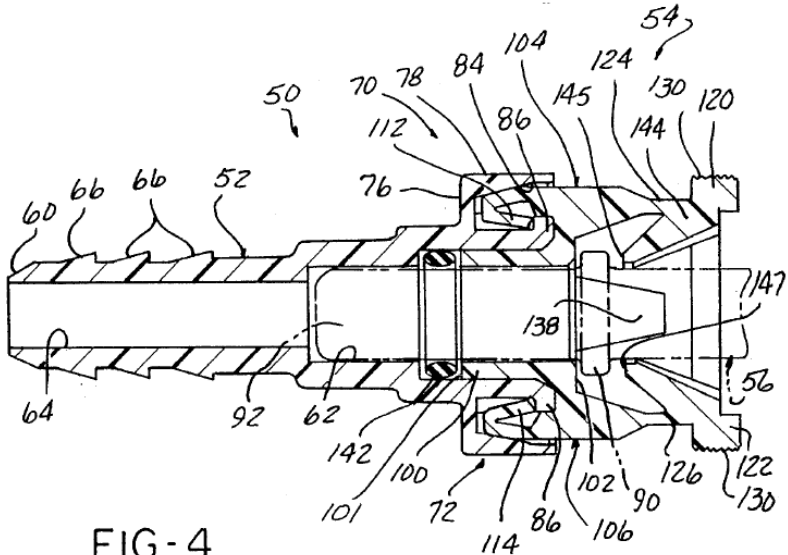
Asserted Claim	Prior Art
	Dudasik discloses: The implant dispensers may be flexible. In preferred embodiments, an implant dispenser includes a first arm engaging a top element of the intervertebral disc implant, a second arm engaging a bottom element of the intervertebral disc implant, and a connecting element for interconnecting the first and second arms. The connecting element is preferably flexible for enabling the first and second arms to move away from one another for releasing the intervertebral disc.

Asserted Claim	Prior Art
	Dudasik at 6:42-49. Referring to FIGS. 28A-28C, the implant dispenser 456 is preferably flexible and includes a superior arm 458 for engaging a top element of an intervertebral disc implant and an inferior arm 460 for engaging a bottom element of an intervertebral disc implant. The superior and inferior arms preferably have lateral notches 462 formed therein for receiving the teeth of the top and bottom elements, as will be described in more detail herein. The implant dispenser also preferably includes a central support 464 that enables the superior and inferior arms 458, 460 to move away from one another for releasing an intervertebral disc implant. <i>Id.</i> at 24:34-49. Similarly, U.S. Patent Publication No. US 2008/0200984 (“Jodaitis”) describes detachable insertion assemblies for intervertebral disc prosthesis insertion where an insertion adapter (106) retains a prosthesis (104) but has tabs that can be squeezed to slightly open the adapter in order to release it from the prosthesis.

Asserted Claim	Prior Art
	 FIG. 2 Jodaitis explains that “[a]ctuating a removal tool (160) by squeezing handles (170) of the removal tool (160) may pivot the tangs (164) of the insertion adapter (106) around the hinge pin (172), causing the jaws (121) to release the plates and the mounting dogs (120) to release their grip on the posts (124) and disengage from the recesses (122).” <i>Id.</i> Jodaitis further teaches an alternative embodiment “comprising a flexible portion at which the tangs (164) articulate,” where “squeezing the tangs (164) will cause the flexible body to flex, the tangs (164) to articulate, the jaws (121) to release the plates, and the mounting dogs (120) to release their grip on the posts (124) and disengage from the recesses (122).” <i>Id.</i> Furthermore, detachable structures with deformable tabs that are pressed or squeezed together in order to slightly open the structure for release were generally ubiquitous and well-known. As one example, as early as 1967, Bubb (US 3,322,381) disclosed a display device incorporating a clamping

Asserted Claim	Prior Art
	member with two resilient leg portions defining a channel. Squeezing the prongs of the clamping member moves the leg portions relative to each other, narrowing or widening a slot to engage or release a supported element. <i>See, e.g.:</i> Similarly, Jackowski (US 5,568,946) titled "Squeeze-to-Release Quick Connector with Snap-In Retainer," discloses a quick connector (50) having pads (120, 122) which could be squeezed together in order to slightly deform and open latch arms (108, 110), allowing retainer (54) to be removed from receiver (70). <i>See, e.g.</i> Jackowski at 3:13-56; 5:53-6:32; <i>see also id.</i> at Claim 1.

Asserted Claim	Prior Art
	FIG-2

Asserted Claim	Prior Art
	 FIG-4 It would have been obvious to include a deformable tab structure for slightly opening, such as those disclosed by Dudasik, Jodaitis, Bubb, and/or Jackowski, with a screw locking bracket as taught by Waugh. Doing so would have facilitated removal of the screw locking bracket in situations where the bracket ought to be removed, improving safety and patient outcomes, while keeping the form factor of the implant and screw locking bracket small. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 10	
[10] The apparatus of claim 1, wherein the screw locking bracket is	Moskowitz 440 combined with Waugh discloses or renders obvious Claim 1. <i>See</i> [1A]-[1J].

Asserted Claim	Prior Art
configured to be press fit to the intervertebral cage.	Moskowitz 440 combined with Waugh discloses and suggests this additional limitation and renders obvious claim 10. For example, Waugh discloses that “the faceplate 104 snap[s] onto the implant member 102 because the locking tabs 130 deform toward their original positions as the locking protrusions 146 at least partially snap into the connecting impressions 124.” Waugh ¶ [0058]. Combining Waugh’s face plate 104 with Moskowitz 440’s implant would not change this functionality. The Moskowitz 440-Waugh combination thus discloses and renders obvious claim 10. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 11	
[11A] A intervertebral combination internal screw guide and fixation apparatus configured to be inserted into a disc space between a first vertebral body and a second vertebral body and to provide fusion of the first vertebral body to the second vertebral body via biological bone fusion and screw fusion, the apparatus comprising:	To the extent the preamble is limiting, Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. <i>See supra</i> at [1A]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
[11B] an intervertebral cage including:	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. <i>See supra</i> at [1B].

Asserted Claim	Prior Art
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;	To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[11C] 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, 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 and 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;	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. <i>See supra</i> at [1C]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[11D] a second internal screw guide having a	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. <i>See supra</i> at [1D].

Asserted Claim	Prior Art
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, 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 and 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, and wherein the internal screw guide and the second internal screw guide are angled to orient a first screw member and a second member bi-directionally in opposite directions;	To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.

Asserted Claim	Prior Art
[11E] a first slot extending at least partially into the first sidewall; a second slot extending at least partially into the second sidewall, 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 sidewall and is positioned nearer a top of the intervertebral cage than a bottom of the intervertebral cage, 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,	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. <i>See supra</i> at [1E]. Because the first slot (<i>see</i> [1E]) is an indentation, it also “extend[s] at least partially into the first sidewall.” Further, because the second slot (<i>see</i> [1E]) is an indentation, it also “extend[s] at least partially into the second sidewall.” To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
[11F] 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,	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. <i>See supra</i> at [1F]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary

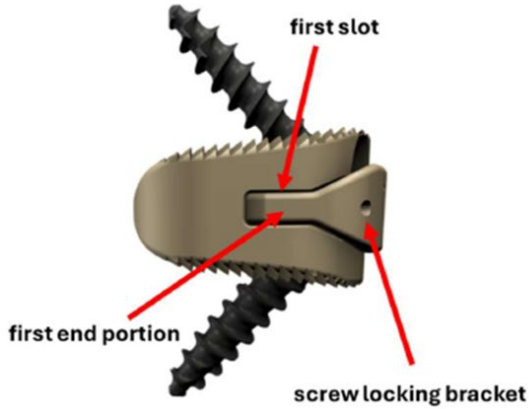
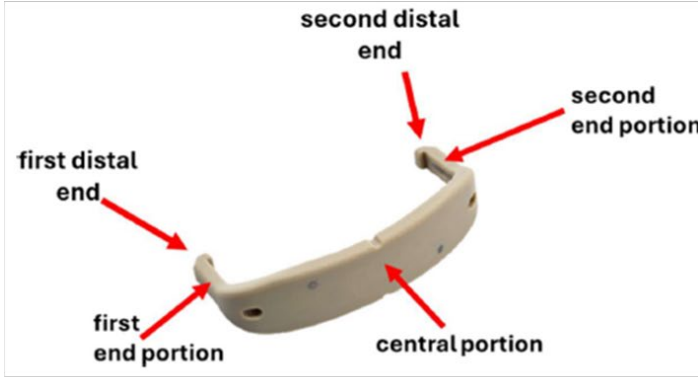
Asserted Claim	Prior Art
wherein at least some of the plurality of surface features are positioned on the side surface between the top wall and the exit opening, and	skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[11G] wherein the top wall, the bottom wall, and the sidewalls are integrally formed;	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. <i>See supra</i> at [1G]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[11H] a first screw having a first screw head and a first screw shaft having a first screw threaded portion, 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	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. <i>See supra</i> at [1H]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.

Asserted Claim	Prior Art
screw shaft of the first screw;	
[11I] a second screw having a seconds screw head and a seconds screw threaded portion, wherein the second screw entrance portion of the second internal screw guide is sized large enough to receive at least part of the second screw head and wherein the second internal bore portion of the second internal screw guide is sized with a smaller diameter than the second screw entrance portion and is sized to receive the second screw shaft of the second screw; and	Moskowitz 440 combined with Waugh discloses or renders obvious this limitation. <i>See supra</i> at [1I]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[11J] 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	Moskowitz 440 combined with Waugh discloses and suggests this limitation. <i>See supra</i> at [1J]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.

Asserted Claim	Prior Art
portion and the second end portion, 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, and	
[11K] 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	Moskowitz 440 combined with Waugh discloses and suggests this limitation. As shown in Figure 5 below, Waugh’s faceplate 104 (<i>i.e.</i>, “the screw locking bracket”) is curved, or “has a curvature.”

Asserted Claim	Prior Art
connected to the intervertebral cage.	Waugh at Fig. 5 (annotated). As discussed in [1J], Waugh’s faceplate 104 has “first and second end portions” with locking tabs 130. Locking tabs 130 have portions farthest from the center of main body 128 (<i>i.e.</i>, “first and second distal ends”). As shown in Figure 4, when faceplate 104 is connected to implant member 102, the first and second distal ends of locking tabs 130 are positioned downward with respect to the central portion in the sense that locking tabs 130 extend from the central portion—which covers the “top surface of the top wall” as defined in [1C]—downward such that the “first and second distal ends” are positioned closer to the “bottom wall” as defined in [1B].

Asserted Claim	Prior Art
	<i>Id.</i> at Fig. 4 (annotated). As discussed in [1J], in the combination of Moskowitz 440 and Waugh, Waugh's faceplate 104 would connect to Moskowitz 440's screw box 200 in the same manner due to the similarities in size, placement, and function of slots in the sidewalls across the two implants. Because the central portion of Waugh's faceplate 104 would cover the top surface of the top wall, <i>see</i> [1C], and the end portions of Waugh's faceplate 104 would be positioned near the bottom wall, <i>see</i> [1B], when connected to the implant, the “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.” The above mapping is consistent with Moskowitz's infringement contentions that were served in this case.

Asserted Claim	Prior Art
	 Diagram showing a medical device with a screw locking bracket and a first slot. Labels include: first slot, first end portion, and screw locking bracket.  Diagram showing a medical device with a central portion and two distal ends. Labels include: first distal end, first end portion, central portion, second distal end, and second end portion. Moskowitz Infringement Contentions, Ex. G1 at [11K]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 12	
[12] The apparatus of 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.	Moskowitz 440 combined with Waugh discloses or renders obvious Claim 11. <i>See</i> [11A]-[11K]. Moskowitz 440 combined with Waugh discloses and suggests this additional limitation and renders obvious claim 12. <i>See supra</i> at [4]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 13	

Asserted Claim	Prior Art
[13] The apparatus of claim 11, and further comprising means for fusing superior and inferior vertebral bodies in conjunction with the intervertebral cage.	Moskowitz 440 combined with Waugh discloses or renders obvious Claim 11. <i>See</i> [11A]-[11K]. Moskowitz 440 combined with Waugh discloses and suggests this additional limitation and renders obvious claim 13. <i>See supra</i> at [6]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 14	
[14] The apparatus of claim 11, wherein the intervertebral cage is sized and configured for use in a patient's lumbar spine, the apparatus further comprising means for fusing superior and inferior lumbar vertebral bodies in conjunction with the intervertebral cage.	Moskowitz 440 combined with Waugh discloses or renders obvious Claim 11. <i>See</i> [11A]-[11K]. Moskowitz 440 combined with Waugh discloses and suggests this additional limitation and renders obvious claim 14. <i>See supra</i> at [6], [13]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 16	
[16] The apparatus of claim 11, wherein the screw locking bracket comprises means to slightly deform the screw locking bracket to remove the screw locking	Moskowitz 440 combined with Waugh discloses or renders obvious Claim 11. <i>See</i> [11A]-[11K]. Moskowitz 440 combined with Waugh discloses and suggests this additional limitation and renders obvious claim 16. <i>See supra</i> at [9].

Asserted Claim	Prior Art
bracket from the intervertebral cage.	As discussed above with respect to [9], it would have been obvious in view of Waugh’s disclosure to use and implant implants “wherein the screw locking bracket comprises means to slightly open the screw locking bracket.” <i>See</i> [9]. The “means to slightly open the screw locking bracket” identified in [9] would have likewise been a means to slightly deform the screw locking bracket to remove the screw locking bracket from the intervertebral cage, as recited in Claim 16. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 17	
[17] The apparatus of claim 16, wherein the means comprises a flexion portion of the screw locking bracket.	Moskowitz 440 combined with Waugh discloses or renders obvious Claim 16. <i>See</i> [16]. Moskowitz 440 combined with Waugh discloses and suggests this additional limitation and renders obvious claim 17. <i>See supra at</i> [9], [16]. As discussed in [9] and [16] above, it would have been obvious to a POSITA that Waugh’s faceplates could be removed given that faceplates are snap-on features with arms that elastically deform. <i>See</i> [9], [16]. As a result, a POSITA would understand that the arms of Waugh’s various faceplate embodiments are elastically deformable, and could be bent outward from the cage in order to remove the faceplate from the implant to slightly open the screw locking bracket. As such, this limitation would have been obvious to a POSITA in view of the disclosure of Waugh. Further, as discussed in [9] and [16] above, in the event “means to slightly deform the screw locking bracket” and/or “means to slightly open the screw locking bracket” invokes 112(6), or the claimed “flexion portion” requires deformable side tabs as disclosed in the ’183 Patent, it would have been obvious to a POSITA to include deformable side tabs, as disclosed in the ’183 Patent, that could be pressed together in order to deform and release the faceplate embodiments taught by Waugh. <i>See</i> [9], [16].

Asserted Claim	Prior Art
	To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 18	
[18A] The apparatus of claim 11, wherein the screw locking bracket contacts both the first and second screw heads when the screw locking bracket is connect to [sic] the intervertebral cage and	Moskowitz 440 combined with Waugh discloses or renders obvious Claim 11. <i>See</i> [11A]-[11K]. Moskowitz 440 combined with Waugh further discloses and suggests this additional limitation and renders it obvious. <i>See supra</i> at [2]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
[18B] wherein the screw locking bracket comprises a first hook at the first end portion that is sized to fit in the first slot and a second hook at the second end portion that is sized to fit in the second slot.	Moskowitz 440 combined with Waugh further discloses or suggests this additional limitation and renders it obvious. <i>See supra</i> at [8]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 19	
[19A] A method of inserting a bi-directional fixating transvertebral (BDFT) screw/cage apparatus between a first vertebral body and a second	To the extent the preamble is limiting, Moskowitz 440 in combination with Waugh discloses or renders obvious this limitation. As discussed in [1A], Moskowitz 440 discloses “a bi-directional fixating transvertebral (BDFT) screw/cage apparatus.” Moskowitz 440 further discloses methods of inserting this device “between a first vertebral body and a second vertebral body.” Moskowitz 440 ¶¶ [0009], [0087]-[0094].

Asserted Claim	Prior Art
vertebral body, the method including: inserting an intervertebral cage into a midline of a disc space between the first vertebral body and the second vertebral body until the intervertebral cage is one of flush and countersunk relative to the first vertebral body and the second vertebral body,	Moskowitz 440 in combination with Waugh further discloses and suggests “inserting an intervertebral cage into a midline of a disc space between the first vertebral body and the second vertebral body until the intervertebral cage is one of flush and countersunk relative to the first vertebral body and the second vertebral body.” Moskowitz 440 discloses surgical methods for inserting screw box 200 (“intervertebral cage”) where “a midline incision is made” before screw box 200 is inserted into the disc space, and where screw box 200 is “placed midline deeply.” Moskowitz 440 ¶¶ [0087], [0093]. Moskowitz 440 thus discloses “inserting an intervertebral cage into a midline of a disc space between the first vertebral body and the second vertebral body.” Waugh discloses this same limitation and additionally discloses that the cage is inserted “until the intervertebral cage is one of flush and countersunk relative to the first vertebral body and the second vertebral body.” Waugh discloses that its cage is implanted in the disc space between two vertebrae through a midline incision, <i>i.e.</i>, “into a midline of a disc space between the first vertebral body and the second vertebral body.” Waugh ¶ [0056]. As shown in the figure below, and discussed further below, Waugh discloses that the intervertebral cage is “one of flush and countersunk relative to the first vertebral body and the second vertebral body.” Waugh ¶ [0027], Figs. 2-4 <i>Fig. 2</i> Waugh at Fig. 2 (annotated). Waugh expressly states that the implantable device 100 “is capable of being entirely contained within the disc space.” <i>Id.</i> ¶ [0036]. According to Waugh, “patient trauma [] can occur if organs and tissues are able to easily contact the implantable device outside the disc space.” <i>Id.</i> Waugh’s disclosure of the advantages of an implant that is contained entirely within the disc space is consistent with

Asserted Claim	Prior Art
	contemporaneous art and with a POSITA's understanding that reducing the protrusions beyond the disc space through a flush design reduces soft tissue irritation. In view of the above teachings in Waugh and a POSITA's knowledge, a POSITA would have been motivated to combine the teachings of Moskowitz 440 and Waugh to configure and use Moskowitz 440's cage in a manner whereby Moskowitz 440's implant could reside entirely within the disc space <i>i.e.</i> a configuration where the cage is “flush” or “countersunk” with the adjacent vertebral bodies. This would have been a predictable design choice given the considerations described above in Moskowitz 440, Waugh, the known state of the art. Moreover, a POSITA would have reasonably expected success in combining the disclosures of Moskowitz 440 and Waugh to allow inserting “intervertebral cage” in the disc space such that it is “flush” or “countersunk” relative to the adjacent vertebral bodies. Configuring Moskowitz 440's implant in this manner would not have required the design of Moskowitz 440's implant to be altered. <i>Id.</i> Instead, a POSITA would only need to choose the dimensions of the cage that would allow the cage to fit entirely within the intervertebral space. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[19B] wherein the intervertebral cage includes: a top wall, a bottom wall, and sidewalls defining a fusion material space capable of receiving bone filling for the biological bone fusion;	Moskowitz 440 in combination with Waugh discloses or renders obvious this limitation. <i>See supra</i> at [1B]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.

Asserted Claim	Prior Art
[19C] 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, 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 and 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;	Moskowitz 440 in combination with Waugh discloses or renders obvious this limitation. <i>See supra</i> at [1C]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the Combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[19D] 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	Moskowitz 440 in combination with Waugh discloses or renders obvious this limitation. <i>See supra</i> at [1D]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.

Asserted Claim	Prior Art
formed at least partially in the top surface of the top wall as viewed from the top, 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 and 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, and wherein the internal screw guide and the second internal screw guide are angled to orient a first screw member and a second member bi-directionally in opposite directions;	
[19E] a first slot extending at least partially into a first sidewall of the sidewalls; a second slot extending at least partially into a second sidewall of the sidewalls, wherein the second slot is	Moskowitz 440 in combination with Waugh discloses or renders obvious this limitation. <i>See supra</i> at [1E]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.

Asserted Claim	Prior Art
positioned opposite of the first slot; 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, 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,	
[19F] 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, and	Moskowitz 440 in combination with Waugh discloses or renders obvious this limitation. <i>Supra</i> at [1F]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.

Asserted Claim	Prior Art
[19G] wherein the top wall, the bottom wall, and the sidewalls are integrally formed; and	Moskowitz 440 in combination with Waugh discloses or renders obvious this limitation. <i>See supra</i> at [1G]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
[19H] inserting a first screw into the internal screw guide of the intervertebral cage;	Moskowitz 440 in combination with Waugh discloses or renders obvious this limitation. As discussed in [1H], Moskowitz 440 discloses “a first screw” that fits within “the internal screw guide of the intervertebral cage.” Moskowitz 440 further discloses that the “screw box incorporates built-in screw and/or drill guides which allow the direct placement and insertion of two self drilling screws.” Moskowitz 440 ¶ [0010]. Moskowitz 440 thus discloses limitation [19H]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
[19I] inserting a second screw into the second internal screw guide of the intervertebral cage;	Moskowitz 440 in combination with Waugh discloses or renders obvious this limitation. As discussed in [1I], Moskowitz 440 discloses “a second screw” that fits within “the second internal screw guide of the intervertebral cage.” Also, as discussed in [19H], Moskowitz 440 also discloses inserting “a second screw into the second internal screw guide.” To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.

Asserted Claim	Prior Art
[19J] 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;	Moskowitz 440 in combination with Waugh discloses or renders obvious this limitation. Moskowitz 440 discloses “insertion of two self drilling screws which are driven in two opposing directions into superior and inferior vertebral bodies, respectively,” and that the “transvertebral screw is screwed into the vertebral body.” Moskowitz 440 ¶¶ [0010], [0089]. Moskowitz 440 thus discloses “screwing the first screw into the first vertebral body.” Additionally, as discussed in [1H], “at least part of the first screw head is positioned in the screw entrance portion of the internal screw guide” and “at least part of the first screw shaft of the first screw is positioned in the internal bore.” Moskowitz 440 also discloses that the internal screw guides (each having a screw entrance portion and internal bore, as discussed in [1C] and [1D]) “allow the direct placement and insertion of two self drilling screws . . . into superior and inferior vertebral bodies” Moskowitz 440 ¶¶ [0010], such that Moskowitz 440 discloses limitation [19J]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
[19K] 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	Moskowitz 440 in combination with Waugh discloses or renders obvious this limitation. Moskowitz 440 discloses “insertion of two self drilling screws which are driven in two opposing directions into superior and inferior vertebral bodies, respectively.” Moskowitz 440 ¶ [0010]. Moskowitz 440 thus discloses “screwing the second screw into the second vertebral body.” Additionally, as discussed in [1H] and [1I], “at least part of the second screw head is positioned in the second screw entrance portion of the second internal screw guide,” and “at least part of the second screw shaft of the second screw is positioned in the second internal bore.” Moskowitz also discloses that when the second screw is in the second screw entrance portion and second internal bore, it also has at least part of the second screw “positioned in the second vertebral body,” as discussed in [19J]. Moskowitz 440 thus discloses limitation [19K]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary

Asserted Claim	Prior Art
positioned in the second vertebral body; and	skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[19L] 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	Moskowitz 440 in combination with Waugh discloses or renders obvious this limitation as discussed above for limitation [1J]. <i>See supra</i> at [1J]. Because the screw entrance portions are formed in the top surface of the top wall (<i>see supra</i> at [1C]) and main body 128 covers the screw entrance portions (<i>see supra</i> at [1J]), the Moskowitz-Waugh combination also discloses that “a central portion of the screw locking bracket extending . . . across at least part of the top surface of the top wall.” To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.

Asserted Claim	Prior Art
least partially visible through gaps between the screw locking bracket and the intervertebral cage.	
Claim 20	
[20] The method of claim 19, and further comprising press fitting the screw locking bracket to the intervertebral cage.	Moskowitz 440 combined with Waugh discloses or renders obvious Claim 19. <i>See</i> [19A]-[19L]. Moskowitz 440 combined with Waugh further discloses and suggests this additional limitation and renders obvious claim 20. <i>See supra</i> at [10]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by the combination of Moskowitz 440 and Waugh, it would have been obvious to a person having ordinary skill in the art to modify Moskowitz 440 or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.