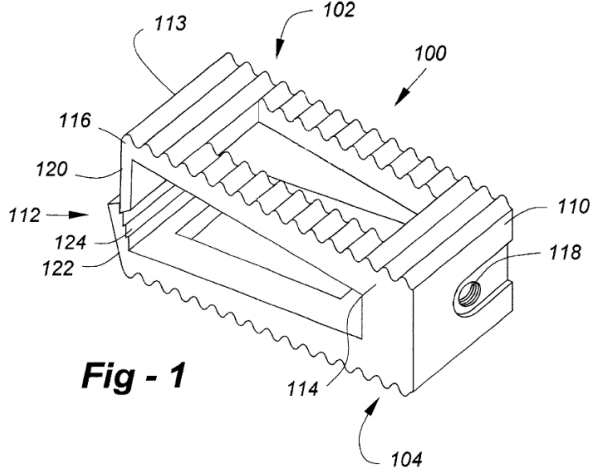
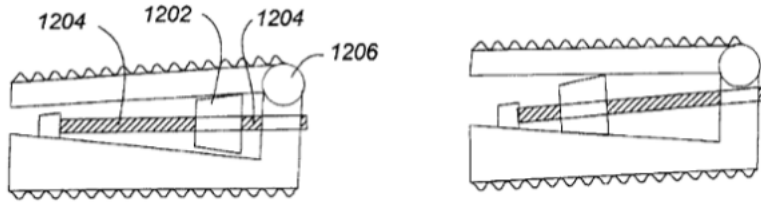


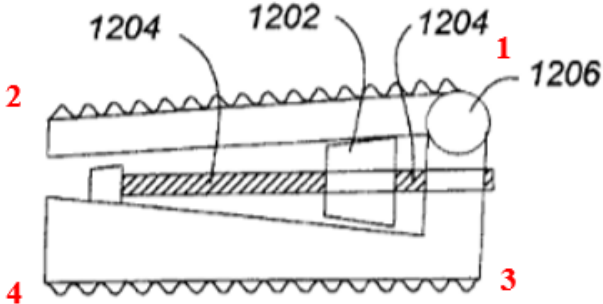
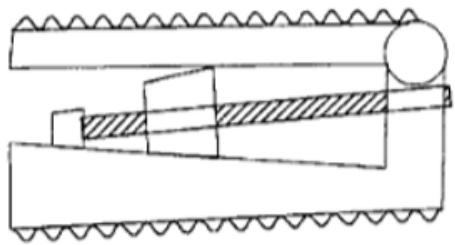
Exhibit C3 – Invalidity of U.S. Patent No. 10,016,284 in view of Ferree and/or Michelson

U.S. Patent No. 6,491,724 to Ferree (issued December 10, 2002) (“Ferree”), in combination with U.S. Patent No. 7,118,579 to Michelson (“Michelson”), and/or in combination with other prior art identified in the cover pleading and/or discussed below, anticipates or renders obvious the asserted claims of U.S. Patent No. 10,016,284 (the “’284 Patent”). This chart applies an October 25, 2012 priority date for the ’284 Patent. Ferree issued on December 10, 2002, more than one year before that priority date, and therefore qualifies as prior art under pre-AIA 35 U.S.C. §§ 102(a) and (b). Michelson issued on October 10, 2006, more than one year before that priority date, and therefore qualifies as prior art under pre-AIA 35 U.S.C. §§ 102(a) and (b). This chart also relies on U.S. Patent No. 9,445,919 to Palmatier (“Palmatier”) and/or U.S. Patent Publication No. 2006/0253201 (“McLuen”) for certain tool-related disclosures. Palmatier was filed on December 19, 2011, and is prior art to the ’284 Patent under at least 35 U.S.C. § 102(e). McLuen published on November 9, 2006, more than one year before the priority date, and therefore qualifies as prior art under pre-AIA 35 U.S.C. §§ 102(a) and (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.

Claims	Exemplary Citations to Prior Art
Claim 1	
[1A] An expandable interbody device comprising: a first housing extending from a first end to a second end, wherein the first housing has first and second end portions positioned at the first and second ends, respectively, and has first and second side portions extending between the first and second end portions,	To the extent the preamble is limiting, Ferree discloses “an expandable interbody device”. Ferree at Title; Abstract; 7:52-8:12; Figs. 1, 11A, 11B, 12A, 12B. Ferree further discloses “a first housing extending from a first end to a second end, wherein the first housing has first and second end portions positioned at the first and second ends, respectively, and has first and second side portions extending between the first and second end portions.” This is shown below, with the respective end portions of the hingedly connected (and thus movable) upper and lower bodies labeled in red numerals. The side portions extend between the end portions. (Ferree also discloses sidewalls in these locations, <i>see</i> Ferree at Figs. 6A, 6B, 5:64-6:4.) For this chart, it is the upper body of Ferree that is the “first housing.”

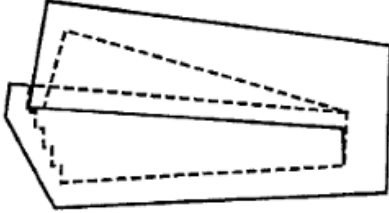
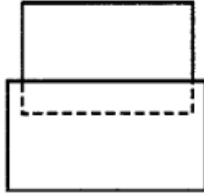
Claims	Exemplary Citations to Prior Art
	Fig - 12A Fig - 12B Fig - 1 Ferree at Figs. 1, 11A, 11B, 12A, 12B; <i>see also id.</i> at 7:52-8:12. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.

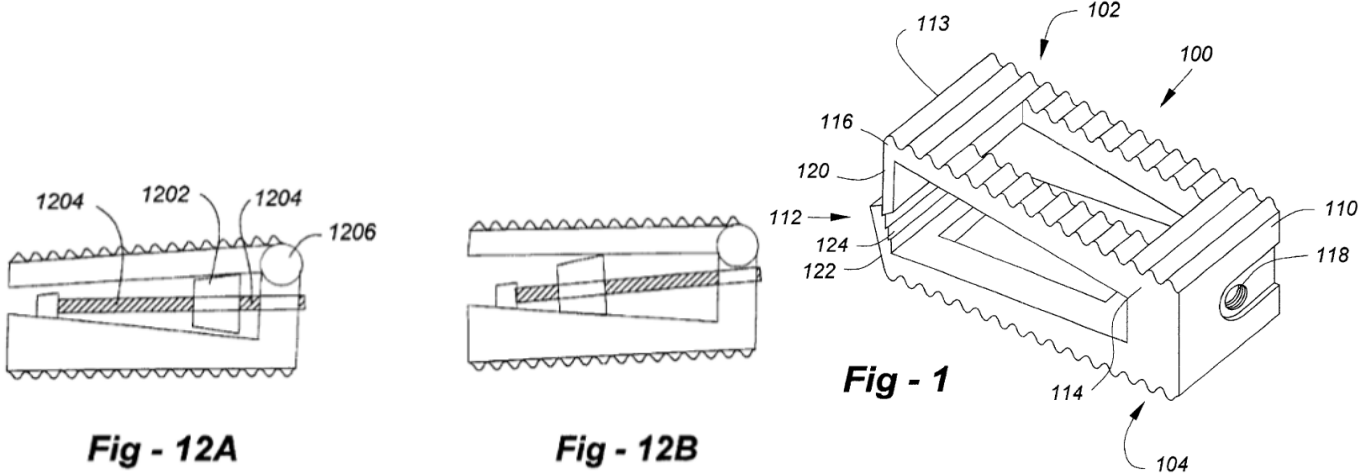
Claims	Exemplary Citations to Prior Art
[1B] wherein the first housing has a first vertebral body engagement surface and has a first interior surface positioned on an opposite side of the first housing than the first vertebral body engagement surface;	Ferree discloses this limitation. As shown, the upper body has a vertebral body engagement surface with a plurality of ridges for interfacing with a vertebral body. Ferree at Figs. 1, 11A, 11B, 12A, 12B. Ferree teaches with respect to Figure 1 that upper and lower surfaces 102 and 104 “preferably include grooves 113, as shown, or alternative surfacing to better engage with the endplates of the adjacent vertebrae for long-term stability.” Ferree at 5:28-31 (this teaching, and other teachings herein with respect to Figure 1, are equally applicable to the embodiments depicted in Figures 11 and 12, which add hinge and opening mechanisms to the underlying structure disclosed and described as to Figure 1, <i>see</i> Ferree at 4:47-55).  Fig - 1 As pictured, the Ferree implant also has a first interior surface positioned on the opposite side of the upper body from the bone-facing surface. Ferree at Figs. 12A, 12B.  Fig - 12A Fig - 12B

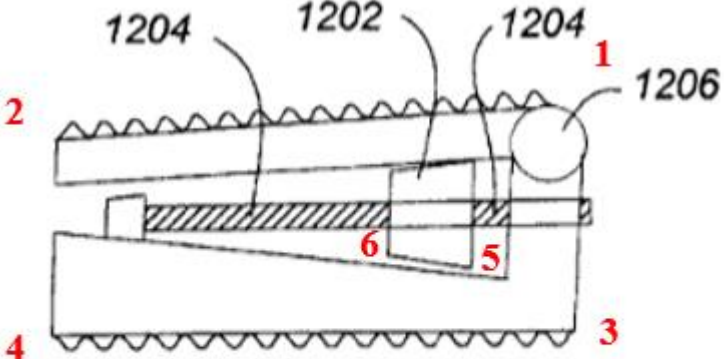
Claims	Exemplary Citations to Prior Art
	To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
[1C] a second housing extending from a third end to a fourth end, wherein the second housing has third and fourth end portions positioned at the third and fourth ends, respectively, and has third and fourth side portions extending between the third and fourth end portions,	Ferree discloses this limitation, as pictured below. In this chart, the lower member is the “second housing”, and the third and fourth end portions are as numbered. The side portions extend therebetween. (Ferree also discloses sidewalls in these locations, <i>see</i> Ferree at Figs. 6A, 6B, 5:64-6:4.)  Fig - 12A  Fig - 12B Ferree at Figs. 1, 11A, 11B, 12A, 12B; <i>id.</i> at 7:52-8:12. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
[1D] wherein the second housing has a second vertebral body engagement surface and has a second interior surface positioned on an opposite side of the second	Ferree discloses a “second vertebral body engagement surface” on the “second housing” (the lower member of Figs. 12A–12B), with a “second interior surface” on the opposite side. The lower member’s outwardly-facing surface engages the adjacent vertebra below — “[t]he superior and inferior surfaces preferably include protrusions for frictionally engaging with vertebral endplates defining the disk space.”

Claims	Exemplary Citations to Prior Art
housing than the second vertebral body engagement surface,	Ferree at 3:35–37. The opposite (inwardly-facing) surface faces slug 1202 within the cage interior and is the “second interior surface”. See Ferree at 7:66–8:12; Figs. 1, 12A, 12B. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
[1E] wherein the first housing is aligned with the second housing such that the first end of the first housing is axially aligned with the third end of the second housing and the second end of the first housing is axially aligned with the fourth end of the second housing,	Ferree discloses this limitation, as shown below. Fig - 12A Fig - 12B Ferree at Figs. 1, 6A, 6B, 8B, 11A, 11B, 12A, 12B; <i>id.</i> at 7:66-8:12. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree 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 first end portion of the first housing is hingedly	Ferree discloses this claim limitation, as shown. See Ferree at 7:52-52-54 (“As opposed to the entire use of shape-memory material, hinges may be used instead of, or in conjunction with shape-memory elements.”); <i>id.</i>

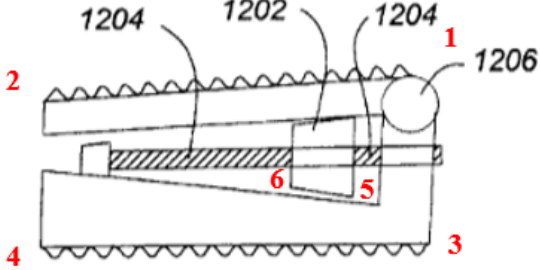
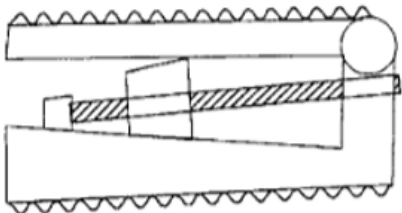
Claims	Exemplary Citations to Prior Art
connected to the third end portion of the second housing such that the first housing can pivot with respect to the second housing so as to move the second end portion of the first housing away from the fourth end portion of the second housing,	at 8:6-12 (“By turning the threaded rod 1204, the slug 1202 is moved to posterior to anterior, with the surfaces of the slug bearing against the lower and upper members, causing the upper member to hinge at point 1206, and move upwardly, as shown in FIG. 12B, to assume a desired wedge-shaped orientation following introduction into the intervertebral disc space.”); <i>see also id.</i> at 7:52-8:12; Figs. 11A, 11B, 12A, 12B. Fig - 12A Fig - 12B To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree 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 second housing defines a slot in the fourth end portion between the third and fourth side portions that is sized to receive the second end portion of the first housing such that the second end of the first housing and the fourth end of the second housing are axially aligned;	Ferree discloses, or in the alternative renders obvious, that the “second housing” defines a “slot” in the “fourth end portion” between the “third and fourth side portions” sized to receive the “second end portion” of the “first housing”. Ferree describes a configuration in which the cage is “constructed such that a portion of the top or bottom half sleeves over the other half, thereby closing the side openings when the two halves are put together. Such an arrangement is shown in FIGS. 6A and 6B.” Ferree at 5:66–6:2; Figs. 6A, 6B. The outer half receiving the inner half forms a “slot” — the receiving channel/sleeve — into which the other half’s end portion is received in the same axial alignment recited in claim 1. <i>See</i> Ferree at 5:64–6:4; Figs. 6A, 6B.

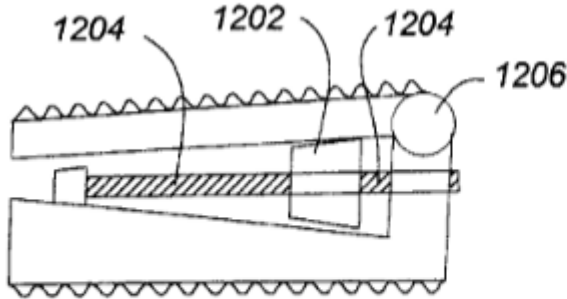
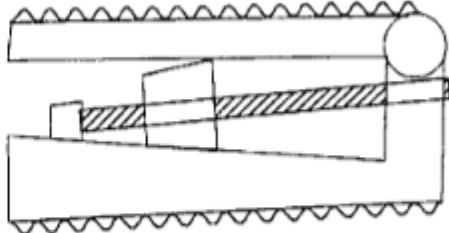
Claims	Exemplary Citations to Prior Art
	 Fig - 6A  Fig - 6B This disclosure of Ferree is equally applicable to all embodiments of Ferree, including the Figure 12A-12B embodiment, and a person of skill in the art would have found it obvious to include this teaching in the Figure 12A-12B embodiment, particularly given the motivation to do so described in Ferry, which included better encapsulating bone graft material. <i>See</i> Ferree at 5:52-6:4. Alternatively, to the extent the “slot” teaching of Figs. 6A/6B is argued not to be expressly part of the Fig. 12A/12B embodiment, it would have been obvious within Ferree to combine the Fig. 6A/6B sleeving arrangement with the Fig. 12A/12B embodiment for multiple independent reasons including: (1) combining the known Fig. 12 expansion mechanism with the known Fig. 6A/6B sleeving combines prior art elements according to known methods to yield predictable results — a sleeved cage that nests the upper member’s anterior end within the lower member’s anterior end while still permitting the Fig. 12 expansion via slug 1202 and threaded rod 1204; (2) Ferree’s sleeving teaching is a known technique used to improve cage stability by closing the side openings (and thereby better restraining bone graft material) and constraining lateral movement between the two halves, and applying that known technique to the Fig. 12 embodiment improves it in the same way; (3) the Fig. 12 cage is a known expandable cage ready for improvement, and the Fig. 6A/6B sleeving provides the known improvement of structural nesting, <i>see</i> Ferree at 5:64–6:4; Figs. 6A, 6B; and (4) using the teachings from one of Ferree’s embodiments to modify another of its embodiments would have been obvious to a POSITA if not expressly or implicitly suggested by Ferree itself.

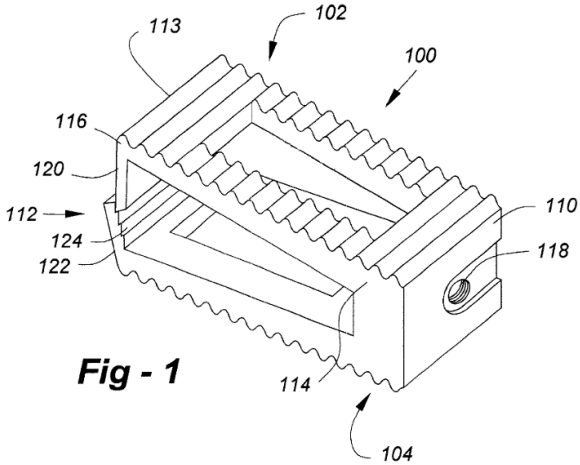
Claims	Exemplary Citations to Prior Art
	 Fig - 12A Fig - 12B Fig - 1 To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[1H] a wedge extending from a fifth end to a sixth end and having an angled wedge surface extending along at least a portion of a distance between the fifth end and the sixth end,	Ferree discloses a “wedge” extending from a “fifth end” to a “sixth end” and having an “angled wedge surface” extending along at least a portion of a distance between the “fifth end” and the “sixth end”, as shown below. Ferree's slug 1202 is the “wedge”: it extends along the cage's “longitudinal axis” from a posterior end (the “fifth end”) to an anterior end (the “sixth end”). As slug 1202 advances anterior, “the surfaces of the slug bearing against the lower and upper members” cause the upper member to hinge upward with respect to the lower member, which structurally requires slug 1202 to present an “angled wedge surface” that converts axial motion into vertical separation. See Ferree at 7:66–8:12; Figs. 12A, 12B.

Claims	Exemplary Citations to Prior Art
	 Fig - 12A Ferree at 12A (annotated). To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[11] wherein the wedge is positioned between the first housing and the second housing with the angled wedge surface facing the first interior surface of the first housing, wherein the first interior surface of the first housing has an angled housing surface shaped to engage the angled wedge surface of the wedge,	Ferree discloses this claim limitation, as shown below. Both the top and bottom of the wedge are angled surfaces. As a reminder, the first housing, according to this chart, is the upper body. <i>See also</i> Ferree at 8:6-12 (“By turning the threaded rod 1204, the slug 1202 is moved to posterior to anterior, with the surfaces of the slug bearing against the lower and upper members, causing the upper member to hinge at point 1206, and move upwardly, as shown in FIG. 12B, to assume a desired wedge-shaped orientation following introduction into the intervertebral disc space.”).

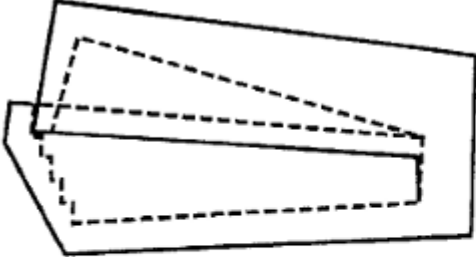
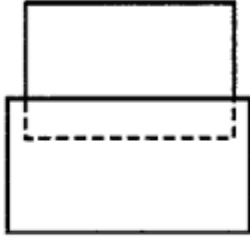
Claims	Exemplary Citations to Prior Art
	Figures 12A and 12B are cross-sectional views of a device. Figure 12A shows a top housing (1204) with a serrated edge, a bottom housing (1204), and a central component (1202) with a hatched section. A circular component (1206) is visible on the right. Figure 12B shows a similar view with a different internal configuration for the central component. Fig - 12A Fig - 12B Ferree at Figs. 12A, 12B; <i>see also id.</i> at 7:66–8:12. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
[1J] wherein a distance from the fifth end to the sixth end of the wedge is less than a distance from the first end to the second end of the first housing and is less than a distance from the third end to the fourth end of the second housing,	Ferree discloses this limitation, as shown below. Figure 12A is a cross-sectional view of the device. Red numbers 1 through 6 are used to indicate specific points or distances: 1 is at the top right corner of the top housing; 2 is at the top left corner of the top housing; 3 is at the bottom right corner of the bottom housing; 4 is at the bottom left corner of the bottom housing; 5 is at the right edge of the central component; and 6 is at the left edge of the central component. Fig - 12A

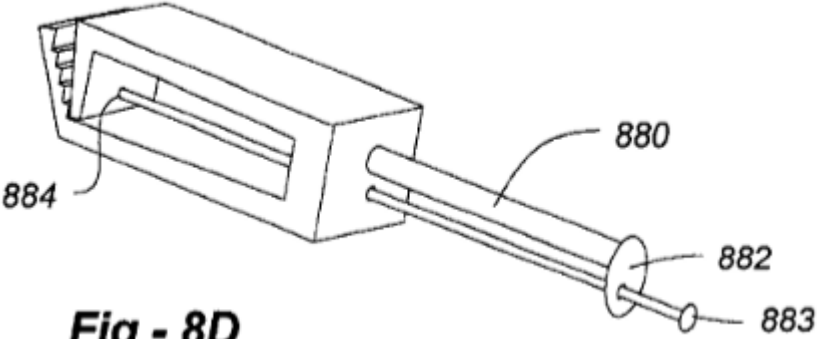
Claims	Exemplary Citations to Prior Art
	Ferree at 12A (annotated). To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[1K] wherein the wedge is configured to slide within a spaced defined by the first and second housings in a direction toward the second and fourth ends of the first and second housings from a first wedge position that allows the first and second housings to pivot to a housing position that is substantially closed to a second wedge position whereby the angled wedge surface presses against the first interior surface of the first housing to hingedly open the first housing with respect to the second housing whereby the wedge remains axially confined within the space defined by the first and second housings in the first and second wedge positions; and	Ferree also discloses this limitation, as shown below. <i>See</i> Ferree at Figs. 1, 12A-12B; <i>id.</i> at 7:66-8:12 (“In FIG. 12A, the cage is shown in a collapsed state with a slug 1202 on a threaded rod 1204 being set back from the anterior region, allowing the height of the device to be compressed from front to back, as shown. By turning the threaded rod 1204, the slug 1202 is moved to posterior to anterior, with the surfaces of the slug bearing against the lower and upper members, causing the upper member to hinge at point 1206, and move upwardly, as shown in FIG. 12B, to assume a desired wedge-shaped orientation following introduction into the intervertebral disc space.”). As shown below, during this operation, the wedge remains attached along the axis of the screw, and thus “remains axially confined within the space defined by the first body and the second body in the compressed and expanded configurations.” First Wedge Position  Fig - 12A Second Wedge Position  Fig - 12B Ferree at Figs. 12A, 12B (annotated).

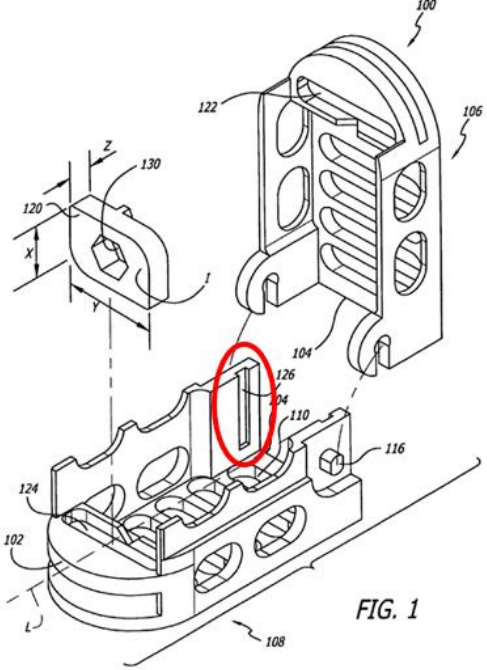
Claims	Exemplary Citations to Prior Art
	To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[1L] a rotation screw operably connected to the wedge and to the second housing, wherein rotation of the rotation screw moves the wedge in an axially translating direction with respect to the first housing and the second housing within the space defined by the first and second housings from the first wedge position to the second wedge position.	Ferree discloses a “rotation screw” operably connected to the “wedge” and to the “second housing”, wherein rotation of the “rotation screw” moves the “wedge” in an axially translating direction with respect to the “first housing” and the “second housing” to “within the space defined by the first and second housings from the first wedge position to the second wedge position.”   Fig - 12A Fig - 12B Threaded rod 1204 is the “rotation screw”, and slug 1202 (the “wedge”) is operably connected thereto because it is threadably mounted on it. Ferree at 8:2-12. Figures 12A and 12B (with reference to similar structures disclosed in Figures 1, 2, 3, 9A, 9B, and 8D) further show that threaded rod is mounted through a hole in the lower body and again at the other end, holding it steady for turning movement, and thus “operably connected” to that body. “Rotation of the rotation screw moves the wedge in an axially translating direction with respect to the first housing and the second housing within the space defined between the first and second housings from the first wedge position to the second wedge position.” See Ferree at Figs. 12A, 12B; see also <i>id.</i> at 7:66-8:12 (“By turning the threaded rod 1204, the slug 1202 is moved to posterior to anterior, with the surfaces of the slug bearing against the lower and upper members, causing the

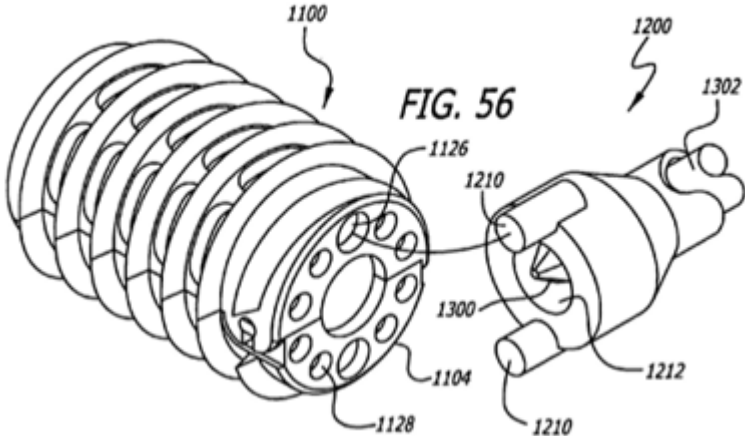
Claims	Exemplary Citations to Prior Art
	upper member to hinge at point 1206, and move upwardly, as shown in FIG. 12B.”); <i>see also id.</i> at 3:38-44 (The “externally accessible mechanism” “may include a slug positioned on a threaded rod which moves posterior to anterior when the rod is rotated.”). To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 2	
[2A] The device of claim 1, wherein the first housing defines a first bone material receiving area between the first and second end portions and the first and second side portions, and	Claim 2 depends from Claim 1. Ferree discloses or renders obvious all limitations of Claim 1 as shown above. Ferree further discloses and/or renders obvious this limitation under two potential interpretations. First, it depicts holes in the top and bottom members, extending from the internal surfaces to the external, bone-engaging surfaces. These holes are between the ends and sides of each member, respectively, and can be considered bone material receiving areas.  Fig - 1

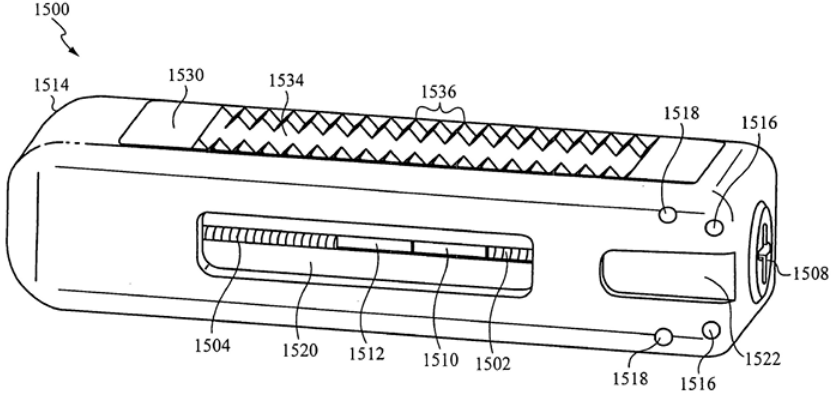
Claims	Exemplary Citations to Prior Art
	Ferree at Fig. 1. A person of skill in the art would understand that this structure of the device, depicted in Figure 1, is equally applicable to the device in Figures 12A and 12B, even though that device is never shown at an angle. Fig - 12A Fig - 12B Alternately, this limitation is satisfied in the combination proposed above in which the hinged Ferree embodiment is given the sidewalls described elsewhere in Ferree to better encapsulate bone graft material. <i>See</i> Ferree at Figs. 6A, 6B; <i>id.</i> at 5:52-6:4. In that combination, the bone material receiving area would extend further into the body of the device. Regardless of the specific Ferree configuration, Ferree makes very clear that the purpose of the interior area of its device is to retain bone graft material. <i>See</i> Ferree at 2:15-26; 3:8-13 (“This invention improves upon the existing art by providing intervertebral cages, and methods of introducing the same, which require few, if any, structural components within the cage itself, thereby providing a maximum volume for bone-graft filler materials.”); 5:52-6:4. As described above, that is part of why a person of skill in the art would have been motivated to add sidewalls to the embodiment of Figs. 12A-12B.

Claims	Exemplary Citations to Prior Art
	 Fig - 6A  Fig - 6B To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
[2B] wherein the second housing defines a second bone material receiving area between the third and fourth end portions and the third and fourth side portions.	See discussion above with respect to claim limitation [1A].
Claim 4	
[4] The device of claim 1, and further comprising means for mating with prongs of a tool.	Claim 4 depends from Claim 1. Ferree discloses or renders obvious all limitations of Claim 1 as shown above. Ferree discloses means for mating with prongs of a tool. According to Ferree, "FIG. 8D is a drawing which shows one way in which an elongated member may be used to hold a cage according to the invention in a collapsed state during introduction of the device into an intervertebral space." Ferree at 4:21-24; <i>see also id.</i>

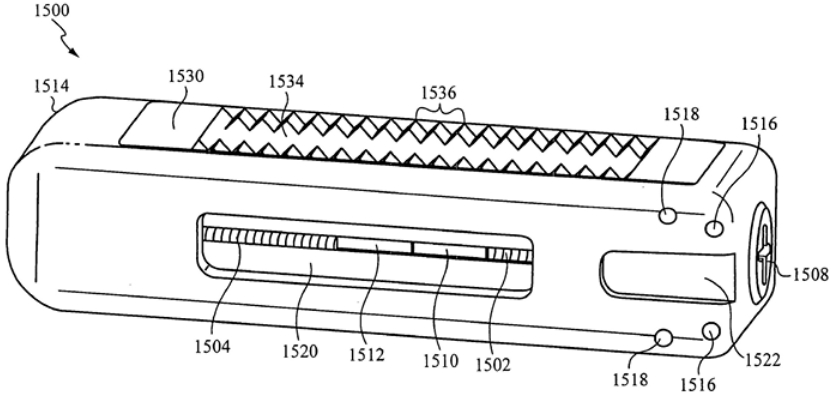
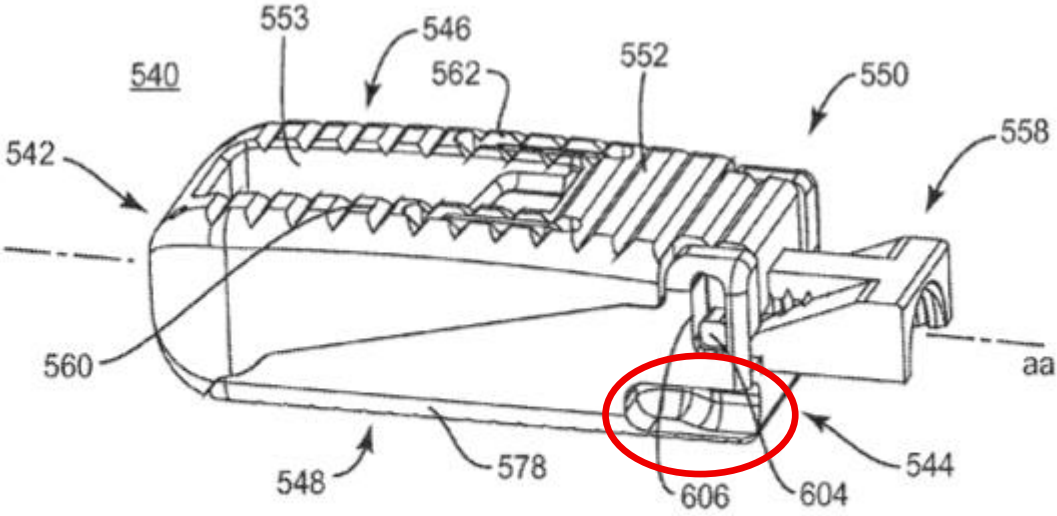
Claims	Exemplary Citations to Prior Art
	at 6:54-7:9. Ferree further states that this instrumentation is directly applicable to the embodiment depicted in Figures 12A and 12B. <i>Id.</i>  Fig - 8D According to Ferree, elongated member 880 has “a distal end attached to the posterior portion of the cage as through the threaded hold 118 shown in FIG. 1.” Ferree at 6:54-60; <i>see also id.</i> at 5:36-37. Second elongated member 833, in turn, “attaches one of the interlocking forward members at 884.” <i>Id.</i> at 6:54-7:9. The surgeon uses both elongated members—coupled through plate 882—to install the device. Ferree thus discloses means the expandable device with two prongs of an insertion tool. <i>See</i> Ferree at 7:66–8:12; Figs. 8D, 12A, 12B. Michelson also discloses this limitation. Michelson discloses indentations on an expandable interbody spinal fusion implant that cooperatively engage prongs of a holder instrument. Michelson describes “[a] slot 126 on implant 100 is adapted to cooperatively engage and may lockably attach to an implant holder 500 (described below).”

Claims	Exemplary Citations to Prior Art
	 FIG. 1 Michelson at Fig. 1 (annotated). Michelson further discloses implant holder 500 with shaft 502 and outer sleeve 504, where the outer sleeve's distal end 522 carries upper and lower extensions 526, 528, and side extensions 530 “adapted to cooperatively engage trailing end 104 of implant 100,” (Michelson at 13:9–10) and where “[s]ide extensions 530 each have a flange 532 to cooperatively engage slot 126 of implant 100 and a stop 534 for limiting further advancement of implant holder 500 into trailing end 104 of implant 100.” Michelson at 13:10–13. Michelson's alternative implant 1100 also satisfies this limitation. It has “pin receiving holes 1126” (Michelson at 24:12–13) engaged by “pins 1210 of implant holder 1200.” Michelson at 24:12. The slots 126 and pin receiving holes 1126 are indentations that cooperatively mate with “prongs” (flanges 532 / pins 1210) of the holder instrument. See Michelson at 12:38–15:53, 16:42–67, 17:35–18:22, 23:59–24:8; Figs. 15–24, 28–30, 35–37, 55–57.

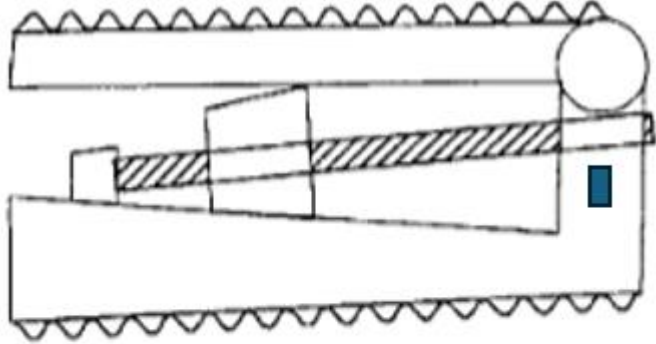
Claims	Exemplary Citations to Prior Art
	 FIG. 56 1100 1126 1128 1104 1200 1210 1212 1300 1302 Palmatier also discloses means for mating an expandable intervertebral implant with the prongs of a device, as discussed in detail in the '284 chart directed to that reference, incorporated by reference herein. McLuen also discloses means for mating an intervertebral implant with the prongs of a device, shown below as indentation 1522. McLuen at Fig. 16; <i>see also id.</i> at [0076] (“When performing surgery near someone's spine, it is preferable to prevent or at least minimize the slipping ability. To do so, channels 1522 are implemented to receive a tool (not shown). The tool (not shown) has attachments that fit within the channels 1522 to secure the tool (not shown) in place.”).

Claims	Exemplary Citations to Prior Art
	 Fig. 16 A person of ordinary skill in the art would have found it obvious to modify Ferree’s expandable cage to incorporate Michelson, Palmatier, and/or McLuen-style “tool”-receiving indentations on the sides or back of the lower body for multiple independent reasons including: (1) combining Ferree’s expandable cage with known “tool”-engagement indentations is a combination of prior art elements according to known methods that yields predictable results — secure non-slip engagement between the implant and the “insertion tool”; (2) Michelson’s, Palmatier’s, and McLuen’s “tool”-receiving indentations are a known technique used to improve insertion of expandable spinal implants by ensuring positive engagement with the holder, and applying that technique to Ferree’s implant would improve it in the same way; (3) Ferree’s cage is a known expandable spinal implant ready for improvement, and Michelson, Palmatier, and McLuen provide the known improvement of dedicated “tool”-engagement indentations, yielding the predictable result of controlled implant delivery; and (4) Michelson, Palmatier and Ferree are in the same field of expandable interbody spinal fusion implants, McLuen is in the field of interbody spinal fusion implants, and all address the common problem of inserting and expanding such implants in vivo, and Michelson, Palmatier, and McLuen expressly teach that their indentations are configured for cooperative engagement with the holder’s “prongs” to permit precise manipulation. <i>See</i> Ferree at 7:66–8:12; Figs. 12A, 12B; Michelson at 12:38–15:53, 16:42–67, 17:35–18:22, 23:59–24:8; Figs. 15–24, 28–30, 35–37, 55–57; McLuen at Fig. 16, [0076]. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, Michelson, Palmatier, and/or McLuen, it would have been obvious to a person having ordinary skill in the art to modify

Claims	Exemplary Citations to Prior Art
	those references or combine them with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 7	
[7] The device of claim 1, wherein the third and fourth side portions define first and second indentations configured to be grabbed by an insertion tool.	Claim 7 depends from Claim 1. Ferree discloses or renders obvious all limitations of Claim 1 as shown above. Ferree in combination with Michelson, Palmatier, and/or McLuen also discloses and/or renders obvious that the “third and fourth side portions” define “first and second indentations” that are configured to be grabbed by an “insertion tool”. Ferree discloses recessed coupling features on the posterior portion of the cage that receive an inserter and/or actuator tool (screw hole 118; the tool assembly of Fig. 8D). <i>See</i> Ferree at 7:66–8:12; Figs. 12A, 12B. To the extent Ferree is argued not to expressly disclose “first and second indentations” on the “third and fourth side portions” configured to be grabbed by an “insertion tool”, Michelson discloses an expandable interbody spinal fusion implant 100 having dedicated “tool”-engagement indentations (“slot” 126) on its trailing end. Michelson's alternative implant 1100 has pin receiving holes 1126 on its trailing end engaged by pins 1210 of implant holder 1200. These slots 126 / pin receiving holes 1126 are “first and second indentations” configured to be grabbed by the “insertion tool”. Palmatier and McLuen also satisfy this limitation. <i>See</i> '284 Chart re Palmatier; McLuen at Fig. 16, [0076].

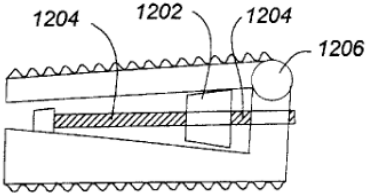
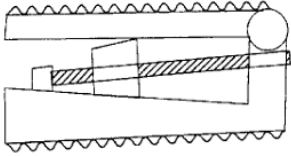
Claims	Exemplary Citations to Prior Art
	 Fig. 16 McLuen at Fig. 16.  FIG. 17

Claims	Exemplary Citations to Prior Art
	FIG. 22 Palmatier at Figs. 17-18, 22 (annotated). Each of the four rationales identified in [4] supports modifying Ferree's expandable cage to provide such indentations. See Ferree at 7:66–8:12; Figs. 12A, 12B; Michelson at 12:38–15:53, 16:42–67, 17:35–18:22, 23:59–24:8; Figs. 15–24, 28–30, 35–37, 55–57; '284 Chart re Palmatier; McLuen at Fig. 16, [0076]. Roughly depicted, these indentations could appear like this on the side portions of the Ferree device (facing out of the page and on the opposite side of the implant, facing into the page).

Claims	Exemplary Citations to Prior Art
	 Fig - 12B To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, Michelson, Palmatier, and/or McLuen, it would have been obvious to a person having ordinary skill in the art to modify those references or combine them with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 8	
[8] A system comprising the device of claim 7, wherein the system further comprises: means for gripping and inserting the device.	Claim 8 depends from Claim 7. Ferree, alone or in combination with Michelson, Palmatier, and/or McLuen, discloses or renders obvious all limitations of Claim 7 as shown above. Ferree discloses means for gripping and inserting the device (the tool with two prongs attached to the device, at least one via a screw hole), as discussed above with respect to Claim 4. Michelson further discloses means for gripping and inserting the device. Michelson's implant holder 500 includes shaft 502 and outer sleeve 504, with the outer sleeve's distal end 522 carrying upper and lower extensions 526, 528, and side extensions 530, each side extension having a flange 532 that engages "slot" 126 of implant 100 — the side extensions function as "prongs" that grip the trailing end of the implant

Claims	Exemplary Citations to Prior Art
	during insertion. Michelson’s alternative implant holder 1200 has pins 1210 that engage pin receiving holes 1126 on implant 1100. Also discloses means for gripping and inserting the device. <i>See</i> McLuen at Fig. 16; <i>id.</i> at [0076] (“When performing surgery near someone’s spine, it is preferable to prevent or at least minimize the slipping ability. To do so, channels 1522 are implemented to receive a tool (not shown). The tool (not shown) has attachments that fit within the channels 1522 to secure the tool (not shown) in place.”). Each of the four rationales identified in [4] supports using Michelson’s or McLuen’s prong-equipped holder instrument to grip and insert Ferree’s expandable cage. <i>See</i> Ferree at 7:66–8:12; Figs. 12A, 12B; Michelson at 12:38–15:53, 16:42–67, 17:35–18:22, 23:59–24:8; Figs. 15–24, 28–30, 35–37, 55–57; <i>see</i> McLuen at Fig. 16; <i>id.</i> at [0076]. Alternatively, for the same reasons, a person of skill in the art would have understood to turn the prongs of Michelson from outward-facing or front-facing prongs, as disclosed therein, to inward-facing prongs, as would be needed to interface with indentations on the side surfaces as discussed above, including with respect to McLuen and Palmatier. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, Michelson, Palmatier, and/or McLuen, it would have been obvious to a person having ordinary skill in the art to modify these references or combine them with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 10	
[10] The device of claim 1, and further comprising means for attaching the first housing to the second housing.	Claim 10 depends from Claim 1. Ferree discloses or renders obvious all limitations of Claim 1 as shown above. Ferree discloses this limitation. Ferree includes a hinge at point 1206 that pivotably attaches the lower member to the upper member. Ferree at 11A, 11B, 12A, 12B; <i>see also id.</i> at 7:52-8:12. The hinges depicted include a pin passing through corresponding knuckles on the upper and lower members. <i>See</i> Ferree at 7:66–8:12; Figs. 12A, 12B. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree Michelson, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any

Claims	Exemplary Citations to Prior Art
	of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 11	
[11] The device of claim 1, wherein the first housing has a thickness that varies between the first end and the second end such that the first interior surface has at least one curved portion and at least one straight portion.	Claim 11 depends from Claim 1. Ferree or renders obvious all limitations of Claim 1 as shown above. Ferree discloses that the “first housing” has a thickness that varies between the “first end” and the “second end” such that the “first interior surface” comprises a curved portion and a straight portion. Fig. 12A shows the upper member with a thicker posterior portion at hinge point 1206 (where the hinge structure resides) and a thinner anterior section, with the interior surface of the upper member presenting a curved profile near the hinge transitioning to a substantially straight cam-engaging portion that bears on slug 1202. Figures 1 and 11A show this thickness difference even more clearly. Ferree further confirms that “either or both of the upper and lower member may be wider posteriorly (i.e., at 114) relative to the anterior thickness (i.e., at 116) to provide added strength in compression at the back of the spine.” Ferree at 5:33–36; <i>see also</i> Ferree at 7:66–8:12; Figs. 12A, 12B. Alternatively, Palmatier discloses this limitation, as described in detail in the ’284 Chart directed thereto, and it would have been obvious to include these aspects of Palmatier into Ferree, including because Palmatier offers substantially more description regarding the various features of an expandable implant than the limited depiction of Figures 12A to 12B of Ferree. To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree and/or Palmatier, it would have been obvious to a person having ordinary skill in the art to modify Ferree and/or Michelson 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 device of claim 1, wherein the wedge comprises substantially straight and parallel opposing side surfaces.	Claim 12 depends from Claim 1. Ferree or renders obvious all limitations of Claim 1 as shown above. Ferree further discloses this limitation. Ferree discloses that the “wedge” comprises opposing first and second side surfaces with first and second substantially flat portions, with the “angled wedge surface” extending between them. Slug 1202 in Figs. 12A and 12B is shown with substantially flat, parallel opposing side surfaces along its axial length. Ferree describes the slug as bearing against the lower and upper members through its angled cam-engaging surface, with the side surfaces flanking that cam surface; given the

Claims	Exemplary Citations to Prior Art
	symmetric nature of the cage and the requirement that slug 1202 translate axially within the channel between the upper and lower members, a person of ordinary skill would understand the slug's side surfaces to be substantially flat and parallel. <i>See</i> Ferree at 7:66–8:12; Figs. 12A, 12B.   Fig - 12A Fig - 12B To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants' Invalidity Contentions Cover Pleading that disclose this limitation.
Claim 14	
[14A] An expandable interbody device comprising: a first housing extending from a first end to a second end, wherein the first housing has first and second end portions positioned at the first and second ends, respectively, and has first and second side portions extending between the first and second end portions,	<i>See</i> discussion above with respect to claim limitation [1A]

Claims	Exemplary Citations to Prior Art
[14B] wherein the first housing has a first vertebral body engagement surface that is substantially convex and has a first interior surface positioned on an opposite side of the first housing than the first vertebral body engagement surface,	<i>See</i> discussion above with respect to claim limitation [1B]. Additionally, Ferree discloses that the first vertebral engagement surface can be substantially convex, stating that “[t]he superior and inferior surfaces may also be convex to better conform to endplate concavity.” <i>Id.</i> at 5:31-32. This teaching, directed to Figure 1, is equally applicable to the embodiment depicted in Figures 12A and 12B, which propose adding features to the underlying structure of the Figure 1A embodiment, not a new device altogether. <i>See</i> Ferree at 3:58-59; 4:51-55; 6:5-197:6-9; 7:52-8:12. Alternatively, it would have been obvious to apply this teaching to the embodiment depicted in Figures 12A and 12B. Fig - 12A Fig - 12B To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
[14C] wherein the first housing defines at least one first bone material receiving area between the first and second end portions and the first and second side portions;	<i>See</i> discussion above with respect to Claim 2.
[14D] a second housing extending from a third end to a fourth end, wherein the second housing has	<i>See</i> discussion above with respect to claim limitation [1C].

Claims	Exemplary Citations to Prior Art
third and fourth end portions positioned at the third and fourth ends, respectively, and has third and fourth side portions extending between the third and fourth end portions,	
[14E] wherein the second housing has a second vertebral body engagement surface that is substantially convex and has a second interior surface positioned on an opposite side of the second housing than the second vertebral body engagement surface,	<i>See</i> discussion above with respect to claim limitation [1D]. Additionally, Ferree discloses that the second vertebral engagement surface can be substantially convex, stating that “[t]he superior and inferior surfaces may also be convex to better conform to endplate concavity.” <i>Id.</i> at 5:31-32. This teaching, directed to Figure 1, is equally applicable to the embodiment depicted in Figures 12A and 12B, which propose adding features to the underlying structure of the Figure 1A embodiment, not a new device altogether. <i>See</i> Ferree at 3:58-59; 4:51-55; 6:5-197:6-9; 7:52-8:12. Alternatively, it would have been obvious to apply this teaching to the embodiment depicted in Figures 12A and 12B. Fig - 12A Fig - 12B To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree, it would have been obvious to a person having ordinary skill in the art to modify Ferree or combine it with any of the other prior art references identified in Defendants’ Invalidity Contentions Cover Pleading that disclose this limitation.
[14F] wherein the second housing defines at least one second bone	<i>See</i> discussion above with respect to Claim 2.

Claims	Exemplary Citations to Prior Art
material receiving area between the third and fourth end portions and the third and fourth side portions,	
[14G] wherein the first housing is aligned with the second housing such that the first end of the first housing is axially aligned with the third end of the second housing and the second end of the first housing is axially aligned with the fourth end of the second housing,	<i>See discussion above with respect to claim limitation [1E]</i>
[14H] wherein the first end portion of the first housing and the third end portion of the second housing are hingedly interconnected such that the first housing can pivot with respect to the second housing so as to move the second end portion of the first housing away from the fourth end portion of the second housing,	<i>See discussion above with respect to claim limitation [1F].</i>
[14I] wherein at least part of the first housing is positioned between the third and fourth side portions of the second housing;	<i>See discussion above with respect to claim limitation [1G].</i>
[14J] a wedge extending from a fifth end to a sixth end and having an angled wedge surface extending along at least a portion of a	<i>See discussion above with respect to claim limitation [1H].</i>

Claims	Exemplary Citations to Prior Art
distance between the fifth end and the sixth end,	
[14K] wherein the wedge is positioned between the first housing and the second housing with the angled wedge surface facing the first interior surface of the first housing, wherein the first interior surface of the first housing has an angled housing surface shaped to engage the angled wedge surface of the wedge,	<i>See discussion above with respect to claim limitation [1I].</i>
[14L] wherein a distance from the fifth end to the sixth end of the wedge is less than a distance from the first end to the second end of the first housing and is less than a distance from the third end to the fourth end of the second housing,	<i>See discussion above with respect to claim limitation [1J].</i>
[14M] wherein the wedge is configured to slide within a spaced defined by the first and second housings in a direction toward the second and fourth ends of the first and second housings from a first wedge position that allows the first and second housings to pivot to a housing position that is substantially closed to a second wedge position whereby the angled wedge surface presses	<i>See discussion above with respect to claim limitation [1K].</i>

Claims	Exemplary Citations to Prior Art
against the first interior surface of the first housing to hingedly open the first housing with respect to the second housing whereby the wedge remains axially confined within the space defined by the first and second housings in the first and second wedge positions; and	
[14N] a rotation screw operably connected to the wedge and to the second housing, wherein rotation of the rotation screw moves the wedge in an axially translating direction with respect to the first housing and the second housing within the space defined by the first and second housings from the first wedge position to the second wedge position.	See discussion above with respect to claim limitation [1L].
Claim 15	
[15] The device of claim 14, wherein the first end portion of the first housing and the third end portion of the second housing are hingedly interconnected via at least two pins.	Claim 15 depends from Claim 14. Ferree discloses all limitations of Claim 14 as shown above. Ferree further discloses and/or suggests that the first end portion of the first housing and the third end portion of the second housing are “hingedly connected via at least two pins”. Ferree expressly states in the Fig. 11A embodiment that “one or more hinges 1102 may be provided between the upper member 1104 and posterior portion 1106 and/or the upper member 1104 and a portion of the ratchet mechanism 1112” (Ferree at 7:55–58), thus disclosing and/or suggesting that the hinge mechanism could be accomplished by one pin extending through the upper and lower bodies in the location of 1206 (and extending into the page), or by two or more pins separately penetrating the upper and lower bodies along that in different locations, one at the location of 1206, and one on the far side of the device. The use of “two pins” is consistent with the hinge

Claims	Exemplary Citations to Prior Art
	structure depicted in Figs. 11A-11B and 12A-12B (as applied to the 3D image of the device in Fig. 1). Ferree at 7:66–8:121; Figs. 11A, 11B, 12A, 12B. Fig - 12A Fig - 12B To the extent Ferree does not alone disclose and/or suggest “at least two pins,” this limitation would have been obvious in further view of U.S Patent No. 5,782,832 to Larsen (“Larsen”). Larsen discloses a similar hinge structure for a similar expandable device, and clearly depicts two pins constituting that hinge structure. Larsen expressly describes the pin-and-slot arrangement as including a pin 432 passing through slots 424 and apertures 428 on each side of implant 400; one pin 432 is provided on each side of the implant so that “two pins” jointly couple the support members. See Larsen at 8:8–47; Figs. 21–24. Larsen at Fig. 22.

Claims	Exemplary Citations to Prior Art
	To the extent Moskowitz argues this limitation is not disclosed or rendered obvious by Ferree and/or Larsen, it would have been obvious to a person having ordinary skill in the art to modify Ferree and/or Larsen 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 device of claim 14, wherein the first housing has a thickness that varies between the first end and the second end such that the first interior surface has at least one curved portion and at least one straight portion.	See discussion above with respect to Claim 11.
Claim 19	
[19A] An expandable interbody device comprising: a first housing extending from a first end to a second end, wherein the first housing has first and second end portions positioned at the first and second ends, respectively, and has first and second side portions extending between the first and second end portions,	See discussion above with respect to claim limitation [1A].
[19B] wherein the first housing has a first vertebral body engagement surface and has a first interior surface positioned on an	See discussion above with respect to claim limitation [1B].

Claims	Exemplary Citations to Prior Art
opposite side of the first housing than the first vertebral body engagement surface,	
[19C] wherein the first housing defines a first bone material receiving area between the first and second end portions and the first and second side portions;	<i>See discussion above with respect to Claim 2.</i>
[19D] a second housing extending from a third end to a fourth end, wherein the second housing has third and fourth end portions positioned at the third and fourth ends respectively, and has third and fourth side portions extending between the third and fourth end portions,	<i>See discussion above with respect to claim limitation [1C].</i>
[19E] wherein the second housing has a second vertebral body engagement surface and has a second interior surface positioned on an opposite side of the second housing than the second vertebral body engagement surface,	<i>See discussion above with respect to claim limitation [1D].</i>
[19F] wherein the second housing defines a second bone material receiving area between the third and fourth end portions and the third and fourth side portions,	<i>See discussion above with respect to Claim 2.</i>
[19G] wherein the third and fourth side portions define first and	<i>See discussion above with respect to Claim 7.</i>

Claims	Exemplary Citations to Prior Art
second indentations configured to be grabbed by an insertion tool,	
[19H] wherein the first housing is aligned with the second housing such that the first end of the first housing is axially aligned with the third end of the second housing and the second end of the first housing is axially aligned with the fourth end of the second housing,	<i>See discussion above with respect to claim limitation [1E].</i>
[19I] wherein the first end portion of the first housing is hingedly connected to the third end portion of the second housing such that the first housing can pivot with respect to the second housing so as to move the second end portion of the first housing away from the fourth end portion of the second housing,	<i>See discussion above with respect to claim limitation [1F].</i>
[19J] wherein the second housing defines a slot in the fourth end portion between the third and fourth side portions that is sized to receive the second end portion of the first housing such that the second end of the first housing and the fourth end of the second housing are axially aligned;	<i>See discussion above with respect to claim limitation [1G].</i>
[19K] a wedge extending from a fifth end to a sixth end with an	<i>See discussion above with respect to claim limitation [1H].</i>

Claims	Exemplary Citations to Prior Art
angled wedge surface extending along at least a portion of a distance between the fifth end and the sixth end and with first and second substantially straight and parallel opposing side surfaces,	
[19L] wherein the wedge is positioned between the first housing and the second housing with the angled wedge surface facing the first interior surface of the first housing, wherein the first interior surface of the first housing has an angled housing surface shaped to engage the angled wedge surface of the wedge,	<i>See discussion above with respect to claim limitation [1I]</i>
[19M] wherein a distance from the fifth end to the sixth end of the wedge is less than a distance from the first end to the second end of the first housing and is less than a distance from the third end to the fourth end of the second housing,	<i>See discussion above with respect to claim limitation [1J].</i>
[19N] wherein the wedge is configured to slide within a spaced defined by the first and second housings in a direction toward the second and fourth ends of the first and second housings from a first wedge position that allows the first and second housings to pivot to a	<i>See discussion above with respect to claim limitation [1K].</i>

Claims	Exemplary Citations to Prior Art
housing position that is substantially closed to a second wedge position whereby the angled wedge surface presses against the first interior surface of the first housing to hingedly open the first housing with respect to the second housing whereby the wedge remains axially confined within the space defined by the first and second housings in the first and second wedge positions; and	
[19O] a rotation screw operably connected to the wedge and to the second housing, wherein rotation of the rotation screw moves the wedge in an axially translating direction with respect to the first housing and the second housing within the space defined by the first and second housings from the first wedge position to the second wedge position.	<i>See discussion above with respect to claim limitation [1L].</i>