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Paper 11
Entered: February 25, 2016

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GLOBUS MEDICAL, INC.,
Petitioner,

v.

FLEXUSPINE, INC.,
Patent Owner.

Case IPR2015-01830
Patent 8,123,810 B2

Before WILLIAM V. SAINDON, HYUN J. JUNG, and TIMOTHY J. GOODSON, *Administrative Patent Judges.*

GOODSON, *Administrative Patent Judge.*

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Globus Medical, Inc. ("Petitioner") filed a Petition (Paper 1, "Pet.") requesting *inter partes* review of claim 17 of U.S. Patent No. 8,123,810 ("the '810 patent"). Flexuspine, Inc. ("Patent Owner") filed a Preliminary Response (Paper 9, "Prelim. Resp.") to the Petition.

We have jurisdiction under 35 U.S.C. § 314. To institute an *inter partes* review, we must determine that the information presented in the Petition shows "a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a). For the reasons set forth below, we do not institute an *inter partes* review of claim 17.

A. Related Matters

Patent Owner is asserting the '810 patent against Petitioner in a civil action in the U.S. District Court for the Eastern District of Texas, *Flexuspine, Inc. v. Globus Medical, Inc.*, Case No. 15-cv-00201-JRG-KNM. Pet. 2–3; Ex. 1002, 1; Paper 5, 2. In addition, four other petitions for *inter partes* reviews involving the same parties are pending:

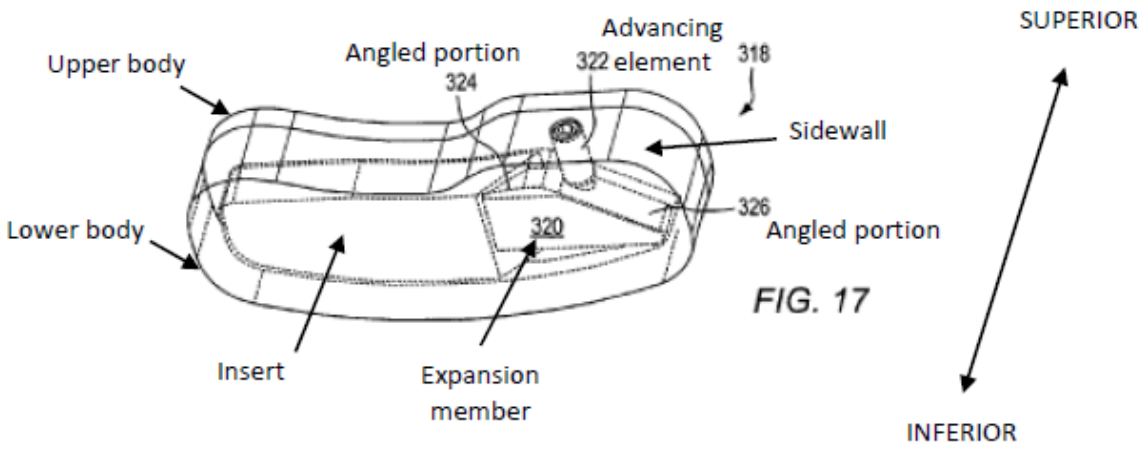
- IPR2015-01721, which concerns U.S. Patent No. 7,316,714;
- IPR2015-01749, which concerns U.S. Patent No. 7,204,853;
- IPR2015-01755, which concerns U.S. Patent No. 7,909,869; and
- IPR2015-01795, which concerns U.S. Patent No. 8,647,386.

See Pet. 3; Paper 5, 2.

B. The '810 Patent

The '810 patent is directed to an expandable intervertebral implant. Ex. 1001, (57). The parties agree that claim 17, the sole challenged claim, covers the embodiment shown in Figure 17. *See* Pet. 5; Prelim. Resp. 5.

Reproduced below is an annotated version of Figure 17 from Patent Owner's Preliminary Response:



Prelim. Resp. 5.

Figure 17 is a perspective view of "a portion of an implant with a double-wedged expansion member." Ex. 1001, 6:23–24. The '810 patent describes the embodiment shown in Figure 17 as follows:

> FIG. 17 depicts a perspective view of an embodiment of a portion of an expandable implant. Implant 318 may include expansion member 320. Expansion member 320 may be advanced with advancing element 322. As depicted in FIG. 17, advancing element 322 may be a screw. In some embodiments, advancing element 322 may engage expansion member 320 from a side (e.g., anterior side, posterior side) of implant 318. In some embodiments, expansion member 320 may include two angled portions. Angled portion 324 may engage a portion of implant 318 (e.g., an insert or a portion of an upper body or a lower body). Advancing element 322 may engage angled portion 326, thus allowing a component of the force from the advancing element to increase a height of implant 318. Accessing expansion member 320 from a longer side (e.g., posterior side) of implant 318 (PLIF approach) may advantageously require a smaller incision and/or cause less tissue damage during insertion of the

> implant than accessing the expansion member from shorter end of the implant (TLIF approach).

Id. at 18:6–25.

C. Prosecution of the '810 Patent

During prosecution of the '810 patent, the Examiner found that the application contained claims directed to numerous distinct species, and required Patent Owner to elect a single species for prosecution. *See* Ex. 1003, 1106–09. Patent Owner traversed the restriction requirement but "elect[ed] species 22, shown in FIG. 17." *Id.* at 1097–98. In the next Office Action, the Examiner found Patent Owner's arguments in traverse of the restriction requirement to be unpersuasive, and deemed the requirement final. *Id.* at 930. The Examiner also rejected the pending claims as anticipated by Dinsdale.[1] *Id.* at 930–31. Through several subsequent exchanges between Patent Owner and the Examiner, prosecution remained focused on whether the claims were allowable over Dinsdale. *See id.* at 916–21, 904–05, 891–97, 398–99, 389–91.

Dinsdale discloses an apparatus for promoting spinal fusion between neighboring vertebrae. *Id.* at 934, (57). Figures 27 and 28 of Dinsdale are reproduced below:

[1] Wagner et al., WO 98/48739, published November 5, 1998. *See* Ex. 1003, 934. Michael Dinsdale is the fourth inventor listed in this reference. *Id.* at 934, (72). We follow the nomenclature used by the Examiner and the parties in this proceeding in referring to this reference as Dinsdale.

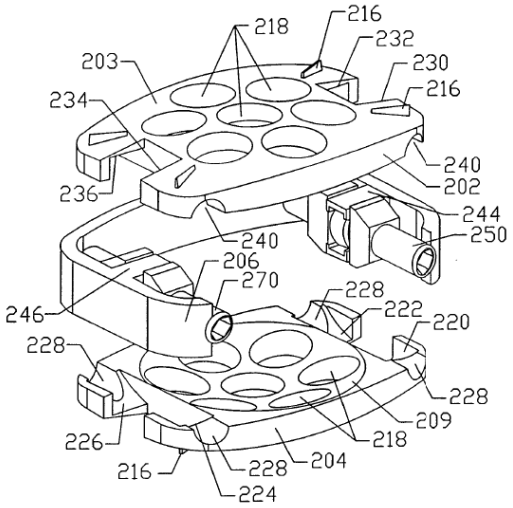


FIG. 27

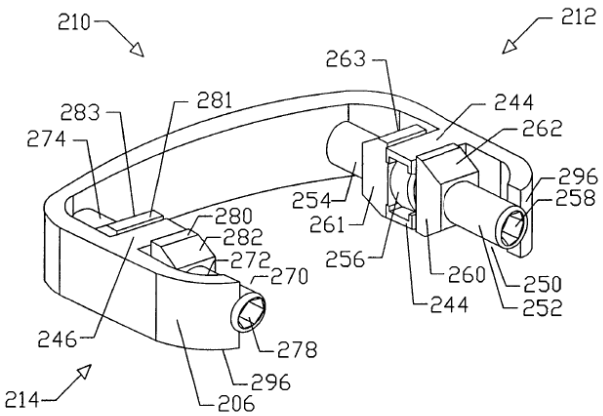


FIG. 28

Id. at 1029–30. Figure 27 shows an exploded view of fusion device 200, which includes engaging plates 202, 204 for engaging adjacent vertebrae and bracket assembly 206. *Id.* at 955:24–26. Figure 28 depicts a perspective view of bracket assembly 206, which "includes an alignment device for changing a height between engaging plates 202 and 204." *Id.* at 956:3–4. The alignment device includes first and second turnbuckles 250, 270. *Id.* at 956:4–5. Turnbuckle 250 includes first and second threaded portions 252, 254 threaded in opposite directions. *Id.* at 956:17–19. Cam blocks 260, 261 are coupled to turnbuckle 250. *Id.* at 956:23–26. Sloped tracks 220, 222 of engaging plate 204 are sloped to match the slopes of the lower surfaces of cam blocks 260, 261. *Id.* at 956:36–957:1. Rotation of turnbuckle 250 in one direction causes cam blocks 260, 261 to move away from each other, and rotation of turnbuckle 250 in the opposite direction causes cam blocks to move toward each other. *Id.* at 957:9–12.

The motion of cam blocks 260, 261 toward the edges of engaging plates 202, 204 causes the height of engaging plates 202, 204 to increase.

Id. at 957:21–23. This is shown more clearly in Figures 30A and 30B, reproduced below:

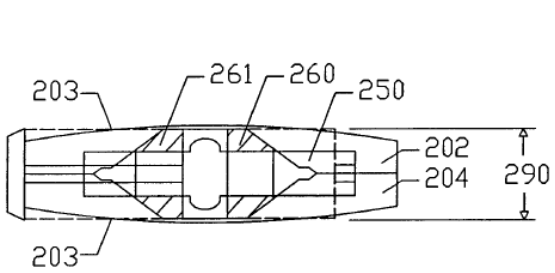


FIG. 30A

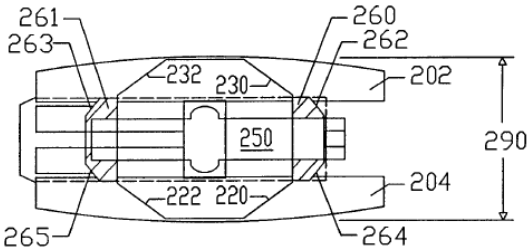


FIG. 30B

Id. at 1032. Figures 30A and 30B show a cutaway view of device 200 in a lowered position and a raised position, respectively. *Id.* at 957:23–24. With respect to these figures, Dinsdale discloses as follows:

> In order for the cam blocks to move laterally toward the exterior of the fusion device, as shown in FIGs. 30A and 30B, the interior separation between engaging plates 202 and 204 must be increased to accommodate the height of the cam blocks. Increasing the interior separation in turn increases the exterior height 290 between exterior surfaces 203 of the engaging plates. Rotation of turnbuckle 250 in a first direction causes lateral motion of cam blocks 260 and 261 toward the exterior of interbody fusion device 200. Because the slopes of surfaces 262, 263, 264, and 265 of the cam blocks match the slopes of sloped tracks 230, 232, 220, and 222, the lateral motion of the cam blocks forces engaging plates 202 and 204 apart and increases height 290.

Id. at 957:25–32.

In an Amendment dated March 1, 2010, Patent Owner amended claim 180. Ex. 1003, 385. The parties agree that this is the claim that ultimately issued as claim 17 of the ’810 patent. *See* Pet. 9; Prelim. Resp. 24. Patent Owner’s amendment to claim 180 is reproduced below, with strikethrough indicating deletion and underscoring indicating an addition:

180. (currently amended): An intervertebral implant for a human spine, comprising:

an upper body comprising an inferior surface and a superior surface, wherein the superior surface of the upper body is configured to engage a first vertebra of the human spine;

a lower body comprising a superior surface and an inferior surface, wherein the inferior surface of the lower body is configured to engage a second vertebra of the human spine; and

an expansion member comprising an elongated body having a substantially flat inferior surface, a substantially flat superior surface, and a first angled portion at an insertion end of the elongated body, wherein the expansion member is configured to be positioned between the upper body and the lower body such that applying a force to a trailing end of the elongated body opposite the insertion end of the elongated body is configured to advance the first angled portion and the substantially flat superior and inferior surfaces of the expansion member in a substantially linear direction between and ~~substantially parallel~~at least partially oblique to at least a portion of the inferior surface of the upper body and at least a portion of the superior surface of the lower body after insertion of the upper and lower body in the spine to increase a separation distance between the superior surface of the upper body and the inferior surface of the lower body.

Ex. 1003, 385. In its remarks accompanying the Amendment, Patent Owner argued that "Dinsdale does not disclose advancing a first angled portion and substantially flat superior and inferior surfaces of an expansion member in a substantially linear direction between and at least partially oblique to at least a portion of the inferior and superior surfaces of upper and lower bodies." *Id.* at 390 (emphasis in original). Following this Amendment, the Examiner issued a Notice of Allowability. *Id.* at. 372.

D. Challenged Claim

The Petition challenges claim 17, which is reproduced below:

17. An intervertebral implant for a human spine, comprising:

an upper body comprising an inferior surface and a superior surface, wherein the superior surface of the upper body is configured to engage a first vertebra of the human spine;

a lower body comprising a superior surface and an inferior surface, wherein the inferior surface of the lower body is configured to engage a second vertebra of the human spine; and

> an expansion member comprising an elongated body having a substantially flat inferior surface, a substantially flat superior surface, and a first angled portion at an insertion end of the elongated body, wherein the expansion member is configured to be positioned between the upper body and the lower body such that applying a force to a trailing end of the elongated body opposite the insertion end of the elongated body is configured to advance the first angled portion and the substantially flat superior and inferior surfaces of the expansion member in a substantially linear direction between and at least partially oblique to at least a portion of the inferior surface of the upper body and at least a portion of the superior surface of the lower body after insertion of the upper and lower body in the spine to increase a separation distance between the superior surface of the upper body and the inferior surface of the lower body.

Ex. 1001, 36:3–29.

E. References Relied Upon

The Petition relies on the following references:

Lim	US 7,828,849 B2	Nov. 9, 2010	Ex. 1004
Johnson	US 6,595,998 B2	July 22, 2003	Ex. 1005

F. Alleged Grounds of Unpatentability

Petitioner contends that claim 17 of the ’810 patent is unpatentable on the following grounds:

Reference	Basis	Claim Challenged
Lim	§ 103	17
Johnson	§ 103	17

II. ANALYSIS

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the

patent in which they appear. 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278 (Fed. Cir. 2015), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, 84 U.S.L.W. 3218 (U.S. Jan. 15, 2016) (No. 15-446). Under the broadest reasonable interpretation standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech. Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definition for a claim term must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

If the scope of the claims cannot be determined without speculation, the differences between the claimed invention and the prior art cannot be ascertained. *See In re Steele*, 305 F.2d 859, 862–63 (CCPA 1962); *BlackBerry Corp. v. MobileMedia Ideas, LLC*, Case IPR2013-00036, slip op. at 8, 20 (PTAB Mar. 7, 2014) (Paper 65). The Board has previously terminated proceedings or denied institution when the scope of the claims being challenged could not be determined without speculation. Several such decisions arise in the context of means-plus-function claim terms for which supporting structure or a specific algorithm for performing the function was not identified in the specification. *See, e.g.*, *BlackBerry*, slip op. at 13–14; *Facebook, Inc. v. TLI Communications LLC*, Case IPR2014-00566, slip op. at 9–12 (PTAB Sept. 15, 2014) (Paper 14); *Space Exploration Technologies Corp. v. Blue Origin LLC*, Case IPR2014-01378, slip op. at 7–9 (PTAB Mar. 3, 2015) (Paper 6). However, Board decisions have applied the same reasoning to other types of claim terms whose metes and bounds are unclear. *See American Honda Motor Co. v. Signal IP, Inc.*, Case IPR2015-01003,

slip op. at 11–13 (PTAB Oct. 1, 2015) (Paper 11) (denying institution due to lack of clarity in the claim term "concentrated"); *Samsung Display Co. v. Gold Charm Ltd.*, Case IPR2015-01452, slip op. at 12–13 (PTAB Nov. 13, 2015) (Paper 12) (denying institution due to lack of clarity in the claim terms "channel" and "channel length").

Claim 17 recites that the expansion member is configured "such that applying a force to a trailing end of the elongated body opposite the insertion end of the elongated body is configured to advance the first angled portion and the substantially flat superior and inferior surfaces of the expansion member in a substantially linear direction between and ***at least partially oblique to at least a portion of the inferior surface of the upper body and at least a portion of the superior surface of the lower body***." For convenience, we refer to the emphasized claim language as the "oblique" limitation. We observe that the quoted claim language specifies advancement of the expansion member in a substantially linear direction that is (i) between at least a portion of the inferior surface of the upper body and at least a portion of the superior surface of the lower body, (ii) at least partially oblique to at least a portion of the inferior surface of the upper body, and (iii) at least partially oblique to at least a portion of the superior surface of the lower body.

The Petition does not propose an express construction of the oblique term, but it does include an annotated version of Figure 17, reproduced below, that illustrates Petitioner's understanding of what it means:

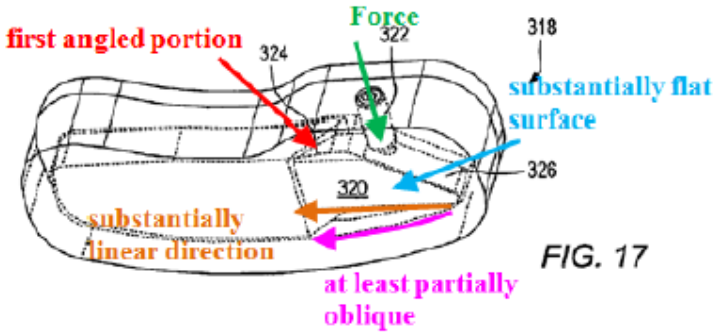


FIG. 17

Pet. 15. Regarding this illustration, Petitioner explains as follows:

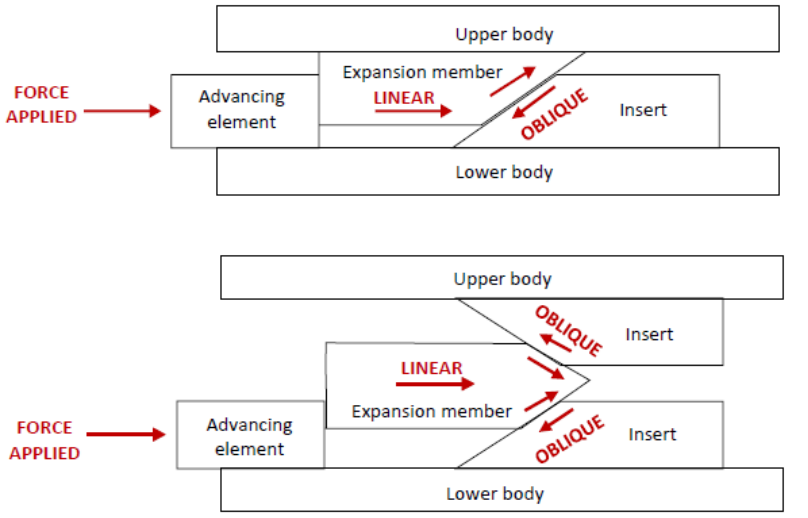
> [T]he curved shape of the upper and lower bodies of the implant . . . results in the expansion member (spacer) traveling in a substantially linear, generally tangential direction during deployment. Because of the curvature of the resulting path along the sidewall, the direction of travel would also be at least partially oblique (i.e. including a lateral/radial component) to at least a portion of the inferior surface of the upper body and at least a portion of the superior surface of the lower body.

Id.

Patent Owner disputes Petitioner's position regarding the meaning of the oblique term:

> The language of claim 17 focuses on oblique movement relative to the inferior surface of the lower body, not the lateral sidewall of the implant. The claimed oblique movement is caused by angled portions of the expansion member, with the intent of moving the expansion member vertically relative to the inferior surface of the lower body to cause expansion of the implant.

Prelim Resp. 20. The Preliminary Response includes the following diagrams that illustrate Patent Owner's view of what the "oblique" term means:



Expansion member moves partially linearly and partially at an oblique angle relative to BOTH the Upper and Lower Bodies

Id. at 8.

The intrinsic record does not support either party's interpretation of the "oblique" term. With respect to Petitioner's position, the Specification does not indicate the "oblique" direction refers to a lateral or radial component of the expansion member's travel as a result of the curved sidewall of the implant. *See* Ex. 1001, 18:6–25. Indeed, the Specification does not refer to the sidewall or the curvature of the implant at all in describing the advancement of the expansion member in Figure 17. *See id.*

Moreover, the oblique term requires the expansion member to advance obliquely relative to "at least a portion of the ***superior surface*** of the lower body." In Figure 17, as we understand it based on the description in the Specification, the force of advancing element 322 on angled portion 326 increases the height of implant 318 by driving expansion member 320 leftward, toward the insert. *See* Ex. 1001, 18:17–20. The sloping interface between angled portion 324 of expansion member 320 and the insert acts as a wedge, such that the leftward motion of expansion member 320 pushes the

upper and lower bodies apart. Thus, during advancement of expansion member 320, the inferior surface of expansion member 320 slides along and remains in contact with the superior surface of the lower body. Even assuming that Petitioner is correct that the advancement of expansion member 320 includes a lateral component due to the curved sidewall of the implant, we are not persuaded that this lateral component should be considered oblique movement between the inferior surface of expansion member 320 and the superior surface of the lower body, because the inferior surface of expansion member 320 remains in contact with the superior surface of the lower body throughout advancement. A bottom surface of an object that is sliding along the top of a second surface is not moving obliquely relative to the top of the second surface.

Turning to Patent Owner's contentions, Patent Owner's explanation of what the oblique term means is inconsistent with the arguments it made during prosecution when it introduced this limitation. As summarized in Section I.C. above, Patent Owner added the oblique term in response to a rejection based on Dinsdale, and Patent Owner argued that Dinsdale did not disclose advancement in an oblique direction as required by the oblique term. *See* Ex. 1003, 385, 390. Patent Owner's contention that the "claimed oblique movement is caused by angled portions of the expansion member, with the intent of moving the expansion member vertically relative to the inferior surface of the lower body to cause expansion of the implant" (Prelim. Resp. 20) cannot be reconciled with Patent Owner's argument during prosecution that Dinsdale does not disclose the oblique term. As explained in Section I.C. above, in Dinsdale, because "the slopes of surfaces 262, 263, 264, and 265 of the cam blocks [260, 261] match the slopes of

sloped tracks 230, 232, 220, and 222, the lateral motion of the cam blocks forces engaging plates 202 and 204 apart and increases height 290." Ex. 1003, 957:30–32. Thus, just like the lower figure in Patent Owner's diagram reproduced above, the angled surfaces of Dinsdale's cam blocks 260, 261 cause engaging plates 202, 204 to move apart vertically, expanding the implant.

Having determined that neither party's interpretation of the oblique term accords with the intrinsic evidence, we discern no other construction of the term that would be consistent with the intrinsic record of the '810 patent. The word "oblique" does not appear in the description of Figure 17 or anywhere else in the Specification, apart from the claims. Nevertheless, Figure 17 and the description thereof must be understood as informative of the meaning of the oblique term because Figure 17 embodies claim 17. That claim 17 encompasses the Figure 17 embodiment is a matter on which the parties agree (*see* Pet. 5; Prelim. Resp. 5), and is a consequence of Patent Owner's election, in response to a restriction requirement, to proceed with prosecution of the species shown in Figure 17. *See* Ex. 1003, 1097–98. Yet it is unclear how the Figure 17 embodiment satisfies the requirement in claim 17 that the advancement of the expansion member is "at least partially oblique to . . . at least a portion of the superior surface of the lower body." As discussed above with respect to Petitioner's proposed construction, in the Figure 17 embodiment, the inferior surface of expansion member 320 slides along and remains in contact with the superior surface of the lower body during advancement of expansion member 320. In other words, there is no relative motion in the vertical direction between the inferior surface of expansion member 320 and the superior surface of the lower body.

Further compounding the confusion is that the oblique term should be understood as being absent in Dinsdale. This conclusion flows from Patent Owner's argument during prosecution, in the Amendment in which it introduced the oblique term. *See* Ex. 1003, 385, 390. It is unclear what the oblique term could mean that satisfies both of these criteria of being present in Figure 17 of the '810 patent and absent in Dinsdale. Accordingly, "the prior art grounds of unpatentability must fall, *pro forma*, because they [would be] based on speculative assumption as to the meaning of the claims." *See Samsung*, slip op. at 13 (quoting *BlackBerry*, slip op. at 20).

III. CONCLUSION

For the foregoing reasons, on the record before us, we conclude that the information presented does not show that there is a reasonable likelihood that Petitioner will prevail with respect to its obviousness challenges to claim 17. Therefore, we deny the Petition for *inter partes* review of claim 17.

IV. ORDER

In consideration of the foregoing, it is hereby ORDERED that the Petition is denied and no trial is instituted.

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