

UNITED STATES PATENT AND TRADEMARK OFFICE  
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BEFORE THE PATENT TRIAL AND APPEAL BOARD  
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C&D ZODIAC, INC.,  
Petitioner,

v.

B/E AEROSPACE, INC.,  
Patent Owner.

\_\_\_\_\_  
Case IPR2017-01274  
Patent 9,365,292 B2  
\_\_\_\_\_

Before JENNIFER S. BISK, MICHAEL J. FITZPATRICK, and  
SCOTT A. DANIELS, *Administrative Patent Judges*.

DANIELS, *Administrative Patent Judge*.

DECISION

Denying Institution *Inter Partes* Review  
35 U.S.C. § 314, 37 C.F.R. §§ 42.4, 42.108

I. INTRODUCTION

A. *Background*

C&D Zodiac, Inc. (“Petitioner”), filed a petition (Paper 2, “Pet.”) to institute an *inter partes* review of claims 1–12 (the “challenged claims”) of U.S. Patent No. 9,365,292 B2 (Ex. 1001, “the ’292 patent”). 35 U.S.C.

§ 311. B/E Aerospace, Inc. (“Patent Owner”), timely filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).<sup>1</sup> Institution of an *inter partes* review is authorized by statute when “the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is 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); 37 C.F.R. § 42.108.

For the reasons that follow, we decline to institute an *inter partes* review.

*B. Asserted Grounds of Unpatentability*

Petitioner contends that the challenged claims are unpatentable under 35 U.S.C. § 103(a)<sup>2</sup> based on the following grounds (Pet. 11–80):

<b>References</b>	<b>Claims challenged</b>
Admitted Prior Art <sup>3</sup> and U.S. Patent No. 3,738,497 (Ex. 1005, “Betts”)	1–12

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<sup>1</sup> Patent Owner filed two versions of the Preliminary Response: Paper 6, to which access is restricted to the parties and the Board; and Paper 7, a publicly available, redacted version of Paper 6. For purposes of this Decision, we refer only to Paper 7, the redacted version of the Preliminary Response.

<sup>2</sup> The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, took effect on March 18, 2013. Because the application from which the ’292 patent issued as a continuation was filed before that date, our citations to Title 35 are to its pre-AIA version.

<sup>3</sup> Petitioner defines “Admitted Prior Art” as certain portions of the ’292 patent. Pet. 11–14 (citing Ex. 1001, Fig. 1, 1:23–24, 3:65–67; Ex. 1004 ¶ 86).

References	Claims challenged
Admitted Prior Art and KLM Overhead Crew Rest Document (Ex. 1009, “KLM Crew Rest”) <sup>4</sup>	1–12

*C. Related Proceeding*

The parties have identified as a related proceeding the co-pending district court litigation of *B/E Aerospace, Inc. v. Zodiac Aerospace, Inc.*, Case No. 2:14-cv-01417 (E.D. Tex.). Paper 5, 2; Pet. 2. Petitioner concurrently filed *inter partes* review proceedings IPR2017-01273, IPR2017-01275, and IPR2017-01276 challenging three related utility patents and PGR2017-00019 challenging a related design patent. Pet. 2.

In addition, Petitioner previously filed a Petition challenging Patent No. 8,590,838 (“the ’838 patent”) in IPR2014-00727, which resulted in a final written decision finding unpatentable claims 1, 3–7, 9, 10, 12–14, 16–19, 21, 22, 24–29, 31, and 33–37 of the ’838 patent. IPR2014-00727, Paper 65 (Oct. 26, 2015). On October 3, 2017, the Federal Circuit affirmed that decision. *B/E Aerospace, Inc. v. C & D Zodiac, Inc.*, 2017 WL 4387223 (Fed. Cir. Oct. 3, 2017). The ’292 is a continuation of application No. 14/043,500, which in turn is a continuation of application No. 13/089,063 that matured into the ’838 patent. Ex. 1001, [63].

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<sup>4</sup> File history for U.S. Application serial No. 09/947,275, which issued as U.S. Patent No. 6,520,451 to Moore and which file history contains a drawing and related description of a KLM Crew Rest. *See, e.g.*, Ex. 1009, 70. Petitioner terms the file history “the KLM Crew Rest Document.” Pet. 16. We employ the same nomenclature.

*D. The '292 Patent*

The '292 patent relates to space-saving aircraft enclosures, including lavatories, closets and galleys. Ex. 1001, 1:17–22, 2:16–21. Figure 2 of the '292 patent is reproduced below.

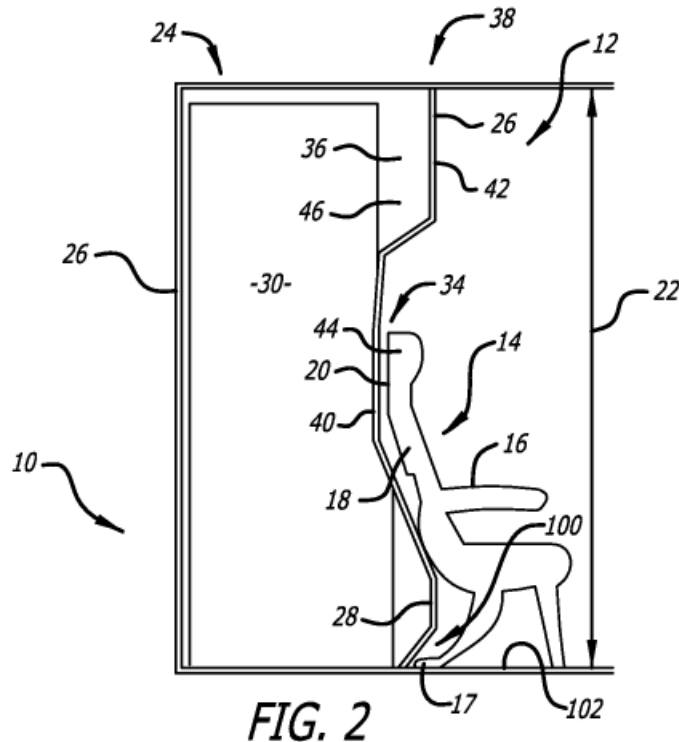


Figure 2, reproduced above, illustrates enclosure 10, such as a lavatory, positioned aft of aircraft cabin 12. Ex. 1001, 4:8–11, 4:15–24. Forward wall 28 of the lavatory is described as “substantially not flat in a vertical plane” and “disposed immediately aft of and adjacent to or abutting the exterior aft surface of” passenger seat 16. *Id.* at 4:21–28. In particular, the forward wall is shaped to provide recess 34, which accommodates the partially-reclined backrest of the passenger seat, as shown in Figure 2. *Id.* at 4:24–28. In addition, the forward wall is shaped to also provide lower recess 100, which accommodates “at least a portion of an aft-extending seat support 17.” *Id.* at 4:31–36.

The '292 patent contrasts the embodiment of Figure 2 with a prior art configuration shown in Figure 1, which is reproduced below.

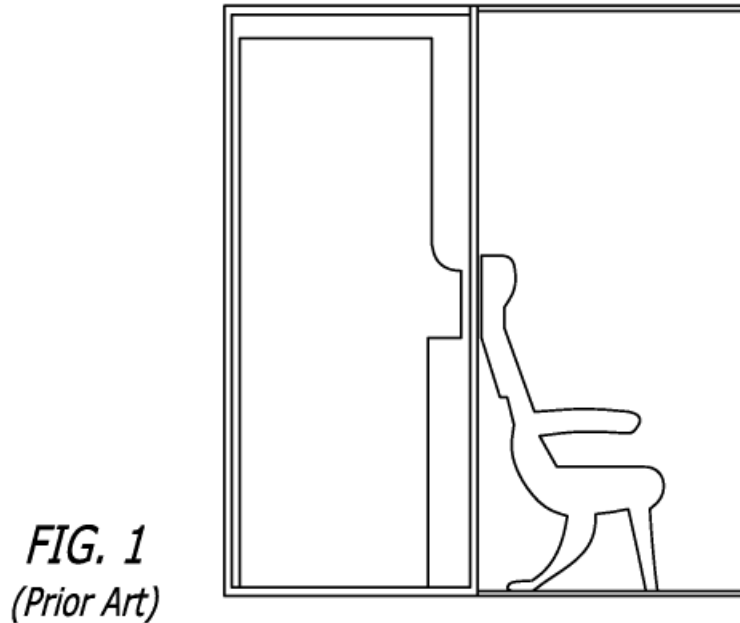


Figure 1, reproduced above, illustrates “a prior art installation of a lavatory immediately aft of an adjacent to an aircraft passenger seat.” Ex. 1001, 3:65–67.

*E. The Challenged Claims*

Of the challenged claims, claims 1 and 6 are independent. Claim 1, which is illustrative, recites:

1. An aircraft enclosure for a cabin of an aircraft, the cabin including a passenger seat located forward of and proximate to the aircraft enclosure, said passenger seat having a seat back with an exterior aft surface that is substantially not flat, a seat bottom, and a seat support that interfaces with the floor of the aircraft cabin and holds the seat bottom in an elevated position above the floor of the aircraft cabin, the aircraft enclosure comprising:

an enclosure unit having a forward wall, said forward wall being part of an outer boundary defining a single enclosed space that includes a toilet, said forward wall being substantially not flat

and configured to receive a portion of the exterior aft surface of said seat back when the seat back is in an unreclined seat position;

wherein said forward wall is adapted to provide additional space forward of the enclosure unit for said seat support to be positioned further aft in the cabin when compared with a position of said seat support if said forward wall was instead substantially flat; and

wherein said single enclosed space is taller than said passenger seat.

Ex. 1001, 4:63–5:16.

## II. ANALYSIS

### A. *Claim Interpretation*

“A claim in an unexpired patent that will not expire before a final written decision is issued shall be given its broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b). When applying that standard, we interpret the claim language as it would be understood by one of ordinary skill in the art in light of the specification. *In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010). Thus, we give claim terms their ordinary and customary meaning. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) (“The ordinary and customary meaning ‘is the meaning that the term would have to a person of ordinary skill in the art in question.’”). Only terms which are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

*B. The Hypothetical Forward Wall Comparison Limitation*

Although neither party proposes an express construction for this limitation (*see* Pet. 30–31; Prelim. Resp. 25–27), we nevertheless address the meaning of “wherein said forward wall is adapted to provide additional space forward of the enclosure unit for said seat support to be positioned further aft in the cabin *when compared with a position of said seat support if said forward wall was instead substantially flat;*” which we refer to as “the hypothetical forward wall comparison limitation.”<sup>5</sup> Ex. 1001, 5:10–14 (emphasis added).

Having considered the entire record, we are unable to determine the metes and bounds of this limitation. A plain reading of the claim language requires the forward wall of the claimed enclosure unit to provide “additional space” such that the seat support can be positioned “further aft in the cabin” compared to another position of the seat support relative to a “substantially flat” forward wall configuration. The abject comparison, however, of the claimed “substantially not flat” forward wall, and a hypothetical “substantially flat” forward wall, juxtaposed as it is with moving the seat support between different positions, is at best unclear.

The clause just prior to the hypothetical forward wall comparison limitation recites “said forward wall being substantially not flat,” as a negative limitation. Ex. 1001, 5:6–7. The use of negative limitations is acceptable in claim drafting. *See* MPEP 2173.05(i) (For example “[i]f

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<sup>5</sup> Independent claim 6 includes a limitation with the same wording, “wherein said forward wall is adapted to provide additional space forward of the enclosure unit for said seat support to be positioned further aft in the cabin *when compared with a position of said seat support if said forward wall was instead substantially flat;*” Ex. 1001, 6:5–9 (emphasis added).

alternative elements are positively recited in the specification, they may be explicitly excluded in the claims.”) (citing *In re Johnson*, 558 F.2d 1008, 1019, (CCPA 1977) (“[the] specification, having described the whole, necessarily described the part remaining.”), and *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983), *aff’d mem.*, 738 F.2d 453 (Fed. Cir. 1984).). Although it is an acceptable claim drafting technique, the exclusionary limitation of a substantially flat forward wall tells us nothing about the profile, contour, or shape of the claimed forward wall, except that it is essentially not a single planar surface. Further, that the “substantially not flat” forward wall is “configured to receive a portion of the exterior aft surface of said seat back when the seat back is in an unreclined seat position,” also tells us nothing about the structure of the claimed forward wall because the claim does not provide any structural details, e.g. profile, shape, or contour, of the claimed “seat back.” *See Ex. 1001, 5:7–9.*

Were the claim to end here it could be comprehensible. Despite not reciting positively any structure, apart from being “not flat,” the claim language might be considered broad, as a claim is indefinite only when those skilled in the art would not understand what is claimed when the claim is read in light of the specification. *See Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986) (citations omitted). A reasonable understanding of the plain meaning of this claim requirement when viewed in the context of the specification, including Figure 2, is, therefore, that the forward wall is “substantially not flat.”

It is the following clause, i.e. the hypothetical forward wall comparison limitation, however, that has indeterminable scope on the record presented.



wherein said forward wall is adapted to provide additional space forward of the enclosure unit for said seat support to be positioned further aft in the cabin when compared with a position of said seat support if said forward wall was instead substantially flat;

Ex. 1001, 5:10–14. The limitation, “wherein said forward wall is adapted to provide additional space forward of the enclosure” is functional because it recites a feature “by what it does rather than by what it is.” *In re Swinehart*, 439 F.2d 210, 212, (CCPA 1971). The recitation of “additional space,” therefore, adds no structural element or significance to the forward wall itself. To try and make any sense of this clause we must look to the subsequent hypothetical “substantially flat” forward wall comparison limitation and the “seat support” recitations as it relates to the claimed “additional space.”

The “additional space” functionally allows for the “seat support to be positioned further aft in the cabin,” but provides no explanation of the spatial or structural relationship between the forward wall and the seat support. In an effort to delineate an intelligible meaning of “additional space” the claim provides that the recited “additional space” occurs “when compared with a position of said seat support *if said forward wall was instead substantially flat.*” Ex. 1001, 5:12–14 (emphasis added).

Based on a reasonable reading of the claim language, it is entirely incomprehensible how the excluded shape of the wall provides any cognizable scope to “additional space.” For example, the claim language “if said forward wall was instead substantially flat,” by its plain language, requires an *additional* hypothetical “forward wall” that is “substantially flat.” Clearly, having two forward walls is likely to be physically

impossible. This limitation, therefore, is an *alternative* hypothetical forward wall.

Understanding the language, “if said forward wall was instead substantially flat,” to mean an alternative hypothetical forward wall, such a limitation does not recite positively any structural elements or characteristics of the claimed “not flat” forward wall, nor does it impart any understandable relative position of the seat support to the hypothetical “substantially flat” forward wall. As a whole, the claim language does not in any comprehensible way tie the relative position of the seat support to the shape of the wall, be it “substantially not flat” or, hypothetically speaking, “substantially flat.” In other words, a critical question left unanswered by this description is what would be the position of the “seat support” relative to a wall that “was instead substantially flat.” It is unclear, for example, how any such comparison of seat support position can be made based solely on the shape of a wall, without knowing where the hypothetical “substantially flat” wall itself resides relative to the seat support and in relation to the claimed “substantially not flat” wall.

With great effect, the claim places few, if any, substantive limits on the forward wall and the physical and functional relationship of the forward wall relative to the seat support, apart from the wall being “substantially not flat.” Without clear fundamental structural and functional undergirding, a person of ordinary skill in the art is unable to determine further the boundaries, for example the size, shape, and location, of the “additional space” as recited in the claim that is reliant on these elemental relationships. *See Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1253 (Fed. Cir. 2008) (Despite distinguishing over the prior art, the Federal Circuit

found that the claim did not limit the invention, explaining that “[w]hile patentees are allowed to claim their inventions broadly, they must do so in a way that distinctly identifies the boundaries of their claims.”)

With the failure to reasonably communicate to the reader what position the seat support is in, relative to any forward wall, flat or not, the claim becomes open to a myriad of plausible claim constructions and renders at least the term, “additional space,” functionally, and structurally, so incongruous as to fail to impart to one of ordinary skill in the art any reasonable scope of protection. *See Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005). (“The scope of claim language cannot depend solely on the unrestrained, subjective opinion of a particular individual purportedly practicing the invention.”) (*abrogated on other grounds by Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014)).

In its analysis, Petitioner does not shed light on the claim scope of the hypothetical forward wall. Instead, Petitioner explains that “[a] person of ordinary skill in the art would realize that [Betts’] contoured forward wall provides additional space forward of the enclosure unit for the seat to be placed further aft in an aircraft cabin than would be possible if the forward wall [was] instead substantially flat” and that the KLM Crew Rest design “allow[s] the last row of seats positioned in front of the contoured wall to sit further aft in the aircraft.” Pet. 35–36, 61–62 (citing Ex. 1004 ¶¶ 103–105, Ex. 1007, ¶ 13). There is no explanation, however, of how the required comparison was made. We cannot find, and Petitioner does not point to, any part of the specification of the ’292 patent which reveals any definite frame of reference explaining the relationship between the claimed “substantially

not flat” forward wall and the hypothetical “substantially flat” forward wall. Indeed, Petitioner appears to conflate the hypothetical forward wall limitation with the claim limitation where “said forward wall is adapted to provide additional space forward of the enclosure unit for said seat support to be positioned further aft in the cabin.” *Id.* at 36 (Petitioner, arguing in support of its obviousness challenges that “Betts specifically states that it ‘provide[s] more room for passengers in an aircraft.’”).

In summary, Petitioner has not provided sufficient information for a determination of the scope of certain limitations, such as the “additional space” and, therefore, we cannot conduct the necessary factual inquiry for determining whether the prior art meets this limitation. *See In re Aoyama*, 656 F.3d 1293, 1298 (Fed. Cir. 2011) (quoting *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010) (“[A] claim cannot be both indefinite and anticipated.”); *In re Steele*, 305 F.2d 859, 862–63 (CCPA 1962) (reversing the Board’s decision of obviousness because it relied on “what at best are speculative assumptions as to the meaning of the claims”); 37 C.F.R. § 42.104(b)(3)–(4) (A petition must show “[h]ow the challenged claim is to be construed” and “[h]ow the construed claim is unpatentable.”).

We are unable to conclude, therefore, that there is a reasonable likelihood that Petitioner would prevail in its challenges of claims 1–12.

### III. CONCLUSION

For the foregoing reasons, based on the information presented in the Petition, we are not persuaded that there is a reasonable likelihood that Petitioner would prevail in showing unpatentability of claims 1–12 of the ’292 patent. We, therefore, decline to institute *inter partes* review as to any of the challenged claims. 37 C.F.R. § 42.108.

IV. ORDER

It is ordered that the Petition is denied as to all challenged claims, and no trial is instituted.

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