UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MILLERKNOLL, INC., Petitioner,

v.

AARON DEJULE, Patent Owner.

IPR2023-01428 Patent 10,292,498 B2

Before KEN B. BARRETT, RICHARD H. MARSCHALL, and ROBERT J. SILVERMAN, *Administrative Patent Judges*.

SILVERMAN, Administrative Patent Judge.

DECISION Denying Institution of *Inter Partes* Review 35 U.S.C. § 314

I. INTRODUCTION

Petitioner MillerKnoll, Inc. ("Petitioner") filed a Petition (Paper 2, "Pet.") requesting an *inter partes* review of claims 1–10, 14, 15, and 18–22 ("Challenged Claims") of U.S. Patent No. 10,292,498 B2 (Ex. 1101, "the '498 patent"). *See* Pet. 1.

Patent Owner Aaron DeJule ("Patent Owner") filed a Preliminary Response (Paper 5, "Prelim. Resp.").

We have authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314; 37 C.F.R. § 42.4(a) (2022). Under 35 U.S.C. § 314(a), we may not authorize an *inter partes* review unless the information in the petition and the preliminary response "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."

For the reasons that follow, we determine that Grounds 1–3 of the Petition (as identified below) do not satisfy the standard for institution. Accordingly, we do not institute an *inter partes* review, as to any of the Grounds presented in the Petition.

II. BACKGROUND

A. Real Parties-in-Interest

Petitioner identifies itself, MillerKnoll, Inc., as the real party-ininterest. Pet. 1.

Patent Owner identifies itself, Aaron DeJule, as the real party-ininterest. Paper 4, 2.

B. Related Matters

As required by 37 C.F.R. § 42.8(b)(2), the parties identify the following related matters: *DeJule v. Miller Knoll, Inc.*, Case No. 1:23-cv-00969-RJJ-SJB (W.D. Mich., filed Sept. 13, 2023) (the "Michigan Litigation"); IPR2023-01427 (challenging a patent related to the '498 patent). Pet. 1; Paper 4, 2.

C. The '498 Patent

The '498 patent, which is titled "Apparatus With Weight Responsive Changeable Adjusting Characteristics," relates to an "apparatus upon which variable weight is applied during normal use and, more particularly, to an apparatus having at least one part with different adjusting characteristics during normal use depending upon the particular applied weight." Ex. 1101, code (54), 1:8–12. "In one form, the reconfigurable apparatus is a chair." *Id.* at 2:64.

In its discussion of "Background Art," the '498 patent refers to "a typical task chair construction," wherein "a wheeled frame supports a vertically adjustable seat" and "[a] back rest is integrated into the frame and/or seat so that it can be tilted or reclined to accommodate a user's normal movements and/or to allow inclined back positions to be comfortably maintained by the user's upper torso weight as he/she is sitting." Ex. 1101, 1:22–27. The '498 patent Specification explains how the varying weights of users can affect the operation of such chairs:

With a single design, performance of a particular seating apparatus will be different depending upon the weight of a user. For example, a heavier individual may be able to comfortably urge a back rest towards an inclined position and comfortably maintain potentially a number of different, desired, inclined

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> positions within a range. On the other hand, a lighter individual with the same design may have to engage in a more unnatural movement and constantly exert a pressure on the seat back to prevent it from returning to its normal upright position, generally maintained through some sort of biasing mechanism.

Id. at 1:37-47.

In the "Summary of the Invention" portion, the Specification describes various forms of a "reconfigurable apparatus" having, e.g., an "adjustable assembly." *See* Ex. 1101, 2:44–4:6.

In the "Detailed Description of the Preferred Embodiment" portion, the Specification describes various exemplary embodiments, such as that shown in Figure 2, which is reproduced below.



Figure 2 "is a side elevation view" of "exemplary apparatus 10... shown in the form of a task chair" that "has a wheeled frame 12 with a vertically extending pedestal assembly 20," a "first component 14," which "is in the form of a conventional-type seat with an upwardly facing user support surface 22," as well as a "second component 16... in the form of a back rest against which a seated user leans to exert the aforementioned force in

the second manner to reconfigure the chair 10," whereby "the back rest moves relative to the frame 12 and first component 14, as the user leans back and forth while seated, generally in a manner as indicated by the doubleheaded arrow 23." Ex. 1101, 4:12, 5:24–42. "The adjusting assembly 18, as shown schematically in FIG. 2, acts between the first component/seat 14 and second component/back rest 16 directly and/or through the frame 12." *Id.* at 5:43–46.

The Specification describes "[e]xemplary specific forms of the adjusting assembly 18." Ex. 1101, 5:63. One of these exemplary forms is shown in Figure 3 of the '498 patent, which is reproduced below.



Figure 3 "is a partially schematic representation of one specific form of adjusting assembly." *Id.* at 4:16–17. The Specification describes various elements shown in Figure 3, and their operation, as follows:

[T]he first component/seat 14 (hereinafter referred to only as the representative chair "seat 14") is integrated into a support 28 that has a depending post 30 that is slidable guidingly vertically, as indicated by the double-headed arrow 32, in a guide channel 34 on the frame 12. A biasing assembly, shown in one exemplary form as a coil spring 33, normally biasably urges the seat 14 upwardly relative to the frame 12.

A generally U-shaped member 36 has one leg 38 of the "U" mounted on a frame part 40. The other leg 42 of the "U" has an offset bracing end 44.

For purposes of simplicity, the support 28 and member 36 can be considered to be part of the frame 12 and/or the adjusting assembly 18. Similarly, the component 58 can be considered to be part of the back rest 16 and/or the adjusting assembly 18.

The spring assembly 19 in this embodiment is in the form of a leaf spring. The leaf spring 19 has an elongate body 46 with a length L between spaced ends 48, 50, a width W, and a thickness T.

The leaf spring end 19 is anchored in the member 36 to project in cantilever fashion vertically upwardly therefrom. In this embodiment, the body 46 of the leaf spring 19 is preloaded so that it naturally assumes the dotted line shape and position.

The bracing end 44 of the member 36 is bifurcated, as seen in FIG. 4, with spaced edges 52 (one shown) at the extremity of the bracing end 44 engageable with one surface 54 of the leaf spring body 46 to maintain the body 46 in the straight vertical orientation, as shown in FIG. 3.

A part of the second component/back rest 16 (hereafter referred to only as the representative chair "back rest 16") is connected to the support 28 for movement relative thereto around the axis 26 as seen in FIG. 2. As a user situated on the seat 14 leans against the back rest 16, a force is generated as shown by the arrow 56 on the back rest component 58 that tends to pivot the component 58 in the direction of the arrow 60 around the axis 26.

The component 58 is configured so that an edge 61 on a cantilevered part 62 thereof bears against the leaf spring surface 54. In the depicted state, this produces a force upon the leaf spring body 46, at a location A along the length of the body 46, that tends to bend the body 46 in the direction of the arrow 64 around a fulcrum location at 66 where the body 46 projects away from the part of the member 36 in which it is anchored. The leaf spring 19 thus biasably resists movement of the component 58, and the back rest 16 of which the component 58 is a part, with a first force.

The configuration in FIG. 3, while it could show a starting state without any force application on the seat 14, is also representative of the overall state of the apparatus 10 with an individual of a first weight seated thereon. This is an equilibrium position for the chair 10 resulting from the balancing of the user's weight and the upward biasing force generated by the spring 33 acting between the frame 12 and the seat 14 through the support 28.

In the event that an individual of greater weight assumes a sitting position on the seat 14, the support 28 and component 58 will translate further downwardly against the force of the spring 33, which causes the edge 61 on the back rest component 58 to bear upon the leaf spring 19 at a location below the location A. As a result, a shorter moment arm is established between the location where the edge 61 on the part 62 contacts the surface 54 and the fulcrum location at 66. Thus, the leaf spring 19 has an effectively shorter length, whereby a greater force is required to be applied to the leaf spring 19 to effect bending thereof as would in turn allow movement of the back rest 16 to reconfigure the chair 10.

To stabilize the support 28, a depending arm 70 thereon connects to the frame part 40 through a link 72. One link end 74 moves about an axis 76 that is fixed relative to the frame part 40. The other link end 78 pivotally connects to the arm 70 for movement about an axis 80.

The bifurcated configuration of the leg 42 allows the part 62 on the component 58 to move in an opening 82 through the region at the offset bracing end 44 so that the member 36

does not interfere with the back rest component 58 as the back rest component 58 lowers under increasing user weight.

Accordingly, an increase in the weight of a user causes the leaf spring 19 to produce a greater resistance to movement of the back rest 16 relative to the frame 12. As a result, the chair is self-adjusting. The parts thereof can be engineered so that a desired relationship between the user's weight and the force required to move the back rest 16 are appropriately established.

Id. at 6:6–7:25.

The additional Figures and accompanying written description of the '498 patent Specification describe various modifications to the adjusting assembly shown in Figure 3, as well as other forms and implementations of adjusting assemblies.

D. Illustrative Claim

As noted above, Petitioner challenges claims 1–10, 14, 15, and 18–22 of the '498 patent, of which claim 1 is the only independent claim. Pet. 1; Ex. 1101, 12:20–14:37. Claim 1, which illustrates the challenged subject matter, is reproduced below.

1. A reconfigurable apparatus for supporting at least part of a user's weight with the user in an operative position with respect to the reconfigurable apparatus, the reconfigurable apparatus comprising:

a frame,

a first component on the frame upon which a force is applied by a user in a first manner as an incident of the user assuming the operative position,

at least a second component on the frame that is movable relative to the first component and upon which a force can be applied by a user in the operative position in a second manner to reconfigure the apparatus by moving the at least second component relative to the first component; and

> an adjusting assembly cooperating between the first component and the at least second component and configured so that as an incident of the force being applied in the first manner changing in magnitude, the force required to be applied in the second manner to reconfigure the apparatus and move the second component relative to the first component changes in magnitude.

Ex. 1101, 12:20–40.

E. Evidence and Asserted Grounds of Unpatentability

Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1	1–10, 14–15, 19–22	102	Takamatsu '3181
2	1, 18	102	Takamatsu '372 ²
3	18	103	Takamatsu '318, Takamatsu '372

Petitioner asserts the following grounds of unpatentability (Pet. 7):

Petitioner filed a Declaration of Marcus C. Koepke (Ex. 1108) with the Petition.

III. DISCRETIONARY DENIAL

Institution of *inter partes* review is discretionary. *See Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) ("[T]he [U.S. Patent and Trademark Office] is permitted, but never compelled, to institute an IPR proceeding.")

Patent Owner contends: (1) an agreement between the parties (Ex. 2005) requires certain matters — including the issues that are the

¹ US 5,080,318, iss. Jan. 14, 1992 (Ex. 1103).

² US 5,348,372, iss. Sept. 20, 1994 (Ex. 1104).

subject of the Petition — to be litigated in courts located in Michigan; (2) the fact discovery attendant to issues presented in the Petition should be investigated as part of the Michigan Litigation; and (3) the interests of judicial economy support denial of the Petition, whereby issues presented in the Petition would be addressed in the Michigan Litigation. Prelim. Resp. 39–52.

We need not address Patent Owner's contentions concerning discretionary denial, because, as discussed below, Petitioner has not established a reasonable likelihood of prevailing in demonstrating the unpatentability of any challenged claim of the '498 patent.

IV. ANALYSIS OF PETITION

A. Legal Standards

1. Claim Interpretation

In an *inter partes* review, we construe claims using the same standard applied in a district court. *See* 37 C.F.R. § 42.100(b). Under this standard, claim terms are generally given their plain and ordinary meaning, as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). "There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution." *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

The sources available for guidance, when undertaking claim construction, "include both intrinsic evidence (*e.g.*, the patent specification

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and file history) and extrinsic evidence (*e.g.*, expert testimony)." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

"The Board is required to construe 'only those terms... that are in controversy, and only to the extent necessary to resolve the controversy."" *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng 'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

Claim construction matters in the Petition concern the unique role of 35 U.S.C. 112(f), ³ which states:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The use of the term "means," in a claim limitation, creates a rebuttable presumption that 35 U.S.C. § 112(f) applies and, conversely, the absence of the term "means" creates a rebuttable presumption that this statutory mandate does not apply. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (en banc, in relevant part). These presumptions can be overcome, however, if the claim limitation "fails to 'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function." *Id.* (citing *Watts v. XL Sys., Inc.*,

³ Section 4(c) of the Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, § 4(c), 125 Stat. 284 (2011), re-designated former 35 U.S.C. § 112, ¶ 6, as 35 U.S.C. § 112(f). The AIA designation (i.e., "§ 112(f)") applies to the '498 patent.

232 F.3d 877, 880 (Fed. Cir. 2000)). Indeed, as the Federal Circuit has emphasized,

the essential inquiry is not merely the presence or absence of the word "means" but whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.

Id. at 1348 (citing *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996)); *see also TriMed, Inc. v. Stryker Corp.*, 514 F.3d 1256, 1259–60 (Fed. Cir. 2008) ("Sufficient structure exists when the claim language specifies the exact structure that performs the functions in question without need to resort to other portions of the specification or extrinsic evidence for an adequate understanding of the structure.")

Construing a means-plus-function claim limitation is a two-step process, undertaken by first identifying the claimed function and then determining what corresponding structure is disclosed in the specification, if any such disclosure exists, that performs the claimed function. *See Williamson*, 792 F.3d at 1351; *see also Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1210 (Fed. Cir. 2003). The "corresponding structure need not include all things necessary to enable the claimed invention to work," but "corresponding structure must include all structure that actually performs the recited function." *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1119 (Fed. Cir. 2002). Further, the referenced "structure disclosed in the specification is 'corresponding' structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim." *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1334 (Fed. Cir. 2004); *see also Cardiac Pacemakers*, 296 F.3d at 1113.

The Board's Rules require that a petition for *inter partes* review identify how each challenged claim is to be construed, including identification of the corresponding structure for means-plus-function limitations. In particular, "[w]here the claim to be construed contains a means-plus-function . . . limitation as permitted under 35 U.S.C. 112(f), the construction of the claim must identify the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function." 37 C.F.R. § 42.104(b)(3). The Consolidated Trial Practice Guide⁴ emphasizes the significance of 37 C.F.R. § 42.104(b)(3):

Where claim language may be construed according to 35 U.S.C. § 112(f), a petitioner must provide a construction that includes both the claimed function and the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function. 37 C.F.R. § 42.104(b)(3). A party may choose to elaborate why § 112(f) should or should not apply to the limitation at issue. ... A petitioner who chooses not to address construction under § 112(f) risks failing to satisfy the requirement of 37 C.F.R. § 42.104(b)(3).

Consolidated Practice Guide, 45.

In addition to mandating a specific approach to claim construction, for applicable claim limitations, 35 U.S.C. § 112(f) requires a specific procedure for determining whether a prior art reference satisfies such a claim limitation, whereby, as stated in the statute, "such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." Hence, "a challenger who seeks to

⁴ See Consolidated Trial Practice Guide ("Consolidated Practice Guide"), 45 (available at https://www.uspto.gov/TrialPracticeGuideConsolidated); see also 84 Fed. Reg. 64,280 (Nov. 21, 2019).

demonstrate that a means-plus-function limitation was present in the prior art must prove that the corresponding structure [appearing in the specification of the subject patent] — or an equivalent — was present in the prior art." *Fresenius USA, Inc. v. Baxter Int'l, Inc.*, 582 F.3d 1288, 1299 (Fed. Cir. 2009) (citing *In re Donaldson Co.*, 16 F.3d 1189, 1193 (Fed. Cir. 1994) (en banc)).

2. Anticipation

To establish anticipation under 35 U.S.C. § 102, each and every element in a claim, arranged as recited in the claim, must be found in a single prior art reference. Net MoneyIN, Inc. v. VeriSign, Inc., 545 F.3d 1359, 1369 (Fed. Cir. 2008); Karsten Mfg. Corp. v. Cleveland Golf Co., 242 F.3d 1376, 1383 (Fed. Cir. 2001). Each element of the challenged claim must be found, either expressly or inherently, in the single prior art reference. Verdegaal Bros., Inc. v. Union Oil Co. of Cal., 814 F.2d 628, 631 (Fed. Cir. 1987). When evaluating a prior art reference in the context of anticipation, the reference must be "considered together with the knowledge of one of ordinary skill in the pertinent art." In re Paulsen, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (citing In re Samour, 571 F.2d 559, 562 (CCPA 1978)). "[A] reference can anticipate a claim even if it 'd[oes] not expressly spell out' all the limitations arranged or combined as in the claim, if a person of skill in the art, reading the reference, would 'at once envisage' the claimed arrangement or combination." Kennametal, Inc. v. Ingersoll Cutting Tool Co., 780 F.3d 1376, 1381 (Fed. Cir. 2015) (quoting In re Petering, 301 F.2d 676, 681 (CCPA 1962)) (alterations in original).

In order to be anticipatory, a prior art reference must enable a person of ordinary skill in the art to make the invention without undue

experimentation. *See Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1336 (Fed. Cir. 2008). A sufficiently enabling anticipatory reference must put the invention "in the possession" of the person of ordinary skill in the art. *See Impax Labs., Inc. v. Aventis Pharms. Inc.*, 545 F.3d 1312, 1315 (Fed. Cir. 2008).

3. Obviousness

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective evidence of nonobviousness (i.e., so-called secondary considerations). *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We also recognize that prior art references must be "considered together with the knowledge of one of ordinary skill in the pertinent art." *Paulsen*, 30 F.3d at 1480 (citing *Samour*, 571 F.2d at 562).

4. Level of Ordinary Skill

In determining the level of skill in the art, we consider the type of problems encountered in the art, the prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field. *Custom*

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Accessories, Inc. v. Jeffrey-Allan Indus. Inc., 807 F.2d 955, 962 (Fed. Cir. 1986); *Orthopedic Equip. Co. v. U.S.*, 702 F.2d 1005, 1011 (Fed. Cir. 1983). Specific findings regarding ordinary skill level may not be required "where the prior art itself reflects an appropriate level and a need for testimony is not shown." *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985)).

B. Prior Art References

1. Takamatsu '318

Takamatsu '318 "provides a tilting control assembly for a chair," in which "[a]t least one of the seat and the back constitutes a tiltable member." Ex. 1103, code (57) (Abstract). "The tilting control assembly comprises"

at least one tilting control spring for elastically supporting the tiltable member via at least one contact member, and an adjusting mechanism which is automatically responsive to the weight applied to the seat for causing relative displacement between the tilting control spring and the contact member in a manner such that the spring constant of the tilting control spring increases as the applied weight increases.

Id.

2. Takamatsu '372

Takamatsu '372 "relates generally to chairs" and, "[m]ore particularly, . . . to a chair of the type wherein at least the seat back are designed to be tiltable rearwardly against a spring or springs." Ex. 1104, 1:6–10. Further, Takamatsu '372 "provide[s] a tilting control assembly for a chair," comprising:

tilting control spring means for elastically supporting the seat back against rearward tilting thereof via load applying means;

> and displacing means responsive to a downward load applied to the seat for causing relative displacement between the tilting control spring means and the load applying means in a manner such that the tilting control spring means provides a progressively larger supportive force as the downward load increases; wherein the tilting control assembly further comprises lock means for preventing reverse relative movement between the tilting control spring means and the load applying means at least while the seat back is rearwardly tilted.

Id. at 1:58–2:7.

C. Analysis of Petitioner's Grounds

Petitioner does not demonstrate a reasonable likelihood that it would prevail with respect to at least one claim of the '498 patent challenged in the Petition.

Claim 1, the sole independent claim in the '498 patent, includes the following "adjusting assembly" limitation:

an adjusting assembly cooperating between the first component and the at least second component and configured so that as an incident of the force being applied in the first manner changing in magnitude, the force required to be applied in the second manner to reconfigure the apparatus and move the second component relative to the first component changes in magnitude.

Ex. 1101, 12:34–40.

Our analysis focuses on whether Petitioner adequately shows that the cited prior art teaches the "adjusting assembly" limitation — an inquiry that disposes of the issues presented by the Petition.

As explained below, for the purposes of this proceeding, we construe the "adjusting assembly" limitation according to the mandate of 35 U.S.C. \$ 112(f) - a conclusion that both parties adopt. Pet. 9; Prelim. Resp. \$ n.5.

Petitioner argues that each of Takamatsu '318 (in Grounds 1 and 3) and Takamatsu '372 (in Ground 2) teaches the "adjusting assembly" limitation. Pet. 33–39 (Ground 1), 64–72 (Ground 2), 74 (Ground 3).

Yet, as explained below, Petitioner does not sufficiently show, for the purposes of the present proceeding, a reasonable likelihood that Petitioner would demonstrate, at trial, that either reference satisfies the "adjusting assembly" limitation. More particularly, Petitioner does not adequately identify corresponding structure in the '498 patent that performs the recited function of the "adjusting assembly." Consequently, Petitioner also does not compare properly corresponding structure of '498 patent, for the "adjusting assembly," to the disclosures of either the Takamatsu '318 reference or the Takamatsu '372 reference.

As noted, above, claims are construed from the perspective of a person of ordinary skill in the art. *See Phillips*, 415 F.3d at 1313. Petitioner contends that person of ordinary skill in the art to which the '498 patent pertains "would have had a bachelor's degree in industrial design, mechanical engineering, and/or a related field, and at least 2–3 years of experience designing furniture." Pet. 8 (citing Ex. 1108 ¶29).

Patent Owner "forgoes offering a competing definition of the level of ordinary skill," at the current stage of this proceeding, stating that "under Petitioner's definition of the level of ordinary skill in the art, Petitioner's challenges fail to establish a reasonable likelihood of prevailing as to any claim of the '498 Patent." Prelim. Resp. 7.

Accordingly, for the purposes of this Decision, and in view of the parties' representations, we adopt Petitioner's description of the relevant level of skill in the art, which appears to be consistent with the level of skill

reflected in the '498 patent and the asserted prior art. *See Okajima*, 261 F.3d at 1355.

Claim 1 of the '498 patent states that the "adjusting assembly" "cooperat[es] between the first component and the at least second component" and is "configured so that as an incident of the force being applied in the first manner changing in magnitude, the force required to be applied in the second manner to reconfigure the apparatus and move the second component relative to the first component changes in magnitude." Ex. 1101, 12:34–40.

Citing the expert declaration of Mr. Koepke, Petitioner contends that "[a]djusting assembly' is not a recognized term of art in the field of the '498 Patent" and "[a]s used in the claims of the '498 Patent, it should be construed as a means-plus-function ('MPF') claim element under 35 U.S.C. § 112(f)." Pet. 9 (citing Ex. 1108 ¶47). Petitioner bases this assertion on its expert's opinions that "claim 1 does not recite sufficient structure for performing th[e] function" recited in the "adjusting assembly" limitation and that a person of ordinary skill in the art "would not consider 'adjusting assembly' to refer to any specific structure." *Id.* (citing Ex. 1108 ¶ 52); *see also id.* at 10 (citing Ex. 1108 ¶¶ 54–59) ("Nor do the claims otherwise recite sufficient structure for providing the claimed function.") Further, Petitioner contends that "[c]laim 1 uses 'adjusting assembly' as a 'nonce' term that operates as a substitute for 'means' to claim a function." *Id.* at 10 (citing *MTD Prods. Inc. v. Iancu*, 933 F.3d 1336, 1341–45 (Fed. Cir. 2019) (holding "mechanical control assembly" operated as nonce term)).

For its part, "Patent Owner agrees that means-plus-function treatment is appropriate for the 'adjusting assembly," although taking this position "[f]or purposes of this proceeding only." Prelim. Resp. 8 n.5.

Based on the current record, we agree with the parties' positions that the "adjusting assembly" limitation of the '498 patent should be construed according to 35 U.S.C. § 112(f). Although the word "means" does not appear in the limitation, the claim language itself does not recite structure that, per the recited function, "cooperat[es] between the first component and the at least second component" and "changes [the] magnitude" of "the force required to be applied in the second manner to reconfigure the apparatus and move the second component relative to the first component," "as an incident of the force being applied in the first manner changing in magnitude." In other words, claim 1 appears to lack sufficient structure for performing the stated function of the "adjusting assembly." See Williamson, 792 F.3d at 1348. Mr. Koepke's opinion, which is unrebutted at this point, that the term "adjusting assembly" would not connote any specific structure, to a person of ordinary skill in the art, at the relevant time (see Ex. 1108 ¶ 52), supports our conclusion that 35 U.S.C. § 112(f) applies to the "adjusting assembly" limitation.

Patent Owner argues that Petitioner's analysis of the function performed by the "adjusting assembly" is deficient, stating, in part, that Petitioner ignores the functional aspect of the phrase "cooperating between the first component and the at least second component," which appears in the limitation. Prelim. Resp. 8–9 (citing Pet. 9). We need not determine whether the "cooperating between" phrase might describe function other

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than what is articulated more fully in other language of the "adjusting assembly" limitation.

Our determinations, herein, are based upon Petitioner's failure to identify adequate corresponding structure in the '498 patent Specification, as well as the failure to identify such structure (or its equivalent) in the prior art.

As to the purportedly corresponding structure, in the '498 patent Specification, Petitioner identifies only two structures for performing the recited function of the "adjusting assembly": a "tilting spring" and a "weighing spring." *See* Pet. 10–14.

Petitioner characterizes a "tilting spring" as "a spring structure that variably resists the tilting of the chair's backrest." Pet. 10 (citing Ex. 1108 ¶ 55). Petitioner refers to "leaf spring 19," shown in Figure 3 of the '498 patent Specification, as "[a]n example of a tilting spring" and provides an annotated Figure 3, reproduced below, indicating "leaf spring 19, highlighted in blue." *Id.*



Petitioner's annotated Figure 3, shown above, reproduces Figure 3 from the '498 patent, with the addition of blue coloring to indicate leaf spring 19 and its reference number. *Id.* at 11.

The other structure in the Specification that Petitioner alleges to be part of the structure performing the function of the "adjusting assembly" is a "weighing spring" — "a spring structure that deforms in proportion to the weight of a user in response to a user sitting in the chair." Pet. 11 (citing Ex. 1108 ¶ 57). Petitioner refers to "coil spring 33," shown in Figure 3 of the '498 patent, as "[a]n example of a weighing spring" and provides another annotated Figure 3, reproduced below, indicating "coil spring 33, highlighted in green." *Id*.



Petitioner's annotated Figure 3, shown above, reproduces Figure 3 from the '498 patent, with the addition of green coloring to indicate coil spring 33 and its reference number. *Id.* at 12. Petitioner contends that a "weighing spring," such as coil spring 33 in Figure 3,

allows the seat (seat 14) to move down in response to a user sitting, thereby reducing the effective length of the tilting spring (leaf spring 19) and changing the magnitude of the force required to move the second component relative to the first component — i.e., the claimed function.

Id. at 11 (citing Ex. 1108 ¶ 57).

Yet, even assuming that Petitioner's characterization of the operation of the Figure 3 embodiment is correct (so far as it goes), Petitioner does not

explain how coil spring 33 would "reduc[e] the effective length of the tilting spring (leaf spring 19)," so as to "chang[e] the magnitude of the force required to move the second component relative to the first component." See Pet. 11. Manifestly, Petitioner's identified structure (leaf spring 19 and coil spring 33), from the '498 patent Specification, standing alone, does not perform all of the function of the "adjusting assembly." Fundamentally, the so-called "tilting spring" and "weighing spring" do not, as claim 1 recites, "change[][the] magnitude" of "the force required to be applied in the second manner to reconfigure the apparatus and move the second component relative to the first component" (e.g., increase the force needed to recline the back rest of a chair) "as an incident of the force being applied in the first manner changing in magnitude" (e.g., as an incident of a person sitting on the seat of the chair). Nor do Petitioner's structures of the "tilting spring" and "weighting spring"—alone, without any other elements — "cooperat[e] between the first component [e.g., a seat] and the second component [e.g., a back rest]," as recited in the claim.

Contrary to Petitioner's analysis, additional structures, beyond what Petitioner calls the "tilting spring" and "weighing spring," are required to perform the recited function of claim 1's "adjusting assembly." The '498 patent discloses several "[e]xemplary specific forms of the adjusting assembly 18." Ex. 1101, 5:63–64. Assuming that the Specification's Figure 3 embodiment is a proper referent for the claimed "adjusting assembly" (which we need not determine), the Specification's description of this embodiment contains numerous elements, beyond coil spring 33 and leaf spring 19, that play a role in its operation. *See id.* at 6:6-7:25. Petitioner fails to determine which of these various elements would be part

of the corresponding structure needed to perform the function of claim 1's "adjusting assembly."

Patent Owner's Preliminary Response highlights Petitioner's failure to identify structure, from the Specification, that might "cooperat[e] between the first component and the second component" and perform the entire recited function:

Petitioner's identified structure for the "adjusting assembly"... has just two disconnected springs, and would be incapable of adjusting anything, let alone performing the specifically-recited functions of "cooperating between the first component and the at least second component" such that "as an incident of the force being applied in the first manner changing in magnitude, the force required to be applied in the second manner to reconfigure the apparatus and move the second component relative to the first component changes in magnitude."

Prelim. Resp. 12.

Because, as discussed above, Petitioner's identification of only coil spring 33 (the purported "weighing spring") and leaf spring 19 (the purported "tilting spring") do not perform all of the recited function of claim 1's "adjusting assembly," we agree with Patent Owner's position (*see* Prelim. Resp. 28) that Petitioner has not properly identified the corresponding structure for performing the recited function of the "adjusting assembly" limitation, as required under 37 C.F.R. § 42.104(b)(3).

Further, having failed to identify structure corresponding to the function recited in the "adjusting assembly" limitation of independent claim 1 (the sole independent claim of the '498 patent), Petitioner also cannot properly compare such corresponding structure in the '498 patent to structures in the cited prior art references. Without making such a proper

comparison, Petitioner cannot demonstrate that either of the cited prior art references satisfies the "adjusting assembly" claim limitation. See *Fresenius*, 582 F.3d at 1299 ("Here, [the party alleging patent invalidity] neither identified the structure in the specification that corresponds to the means for delivering dialysate nor compared it to the structures present in the prior art.") (citing CytoLogix Corp. v. Ventana Med. Sys., Inc., 424 F.3d 1168, 1178 (Fed. Cir. 2005)); see also Becton, Dickinson & Co. v Baxter Int'l, Inc., IPR2018-01741, Paper 8 at 16 (PTAB March 18, 2019) ("As Patent Owner points out, it is not apparent how the disclosures of the cited references that Petitioner relies on for the 'attaching' terms are structurally similar to the structures described in the '237 patent for the 'attaching' functions. Patent Owner should not be required to speculate as to the basis for Petitioner's contentions that the relied-upon structures are the same as or equivalent to the corresponding structure in the '237 patent.") (citation omitted); Samsung Elecs. Am., Inc. v. Prisua Engineering Corp., IPR2017-01188, Paper 72 at 20–22 (PTAB Oct. 2, 2018) (determining that the petitioner did not establish unpatentability of claims that recited "digital processing unit" because the petitioner did not identify the structure corresponding to the recited functions); *Facebook, Inc. v. Sound View Innovations*, *LLC*, IPR2017-00985, Paper 17 at 13–14 (PTAB Sept. 5, 2017) ("We will not make arguments for Petitioner.... The analysis of Petitioner's arguments regarding claims 1–3 begins and ends with Petitioner's failure to provide constructions of the claim terms including 'controller' under 35 U.S.C. § 112, ¶ 6, and we cannot evaluate Petitioner's asserted ground with respect to claims 1-3 in the absence of such constructions.")

Under these circumstances, the Petition does not establish a reasonable likelihood of unpatentability for claim 1. See Samsung Elecs. Co., Ltd. v Power2B Inc., IPR2022-01378, Paper 12 at 15, 17 (PTAB March 15, 2023) ("Because Petitioner has not identified structure corresponding to the functions recited in claims 1 and 5, we cannot ascertain the differences between the claimed invention and the asserted prior art, as required [to evaluate obviousness]. ... Accordingly, we conclude that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing claims 1 and 5 are unpatentable under 35 U.S.C. § 103(a) as obvious over Bird and Ishii."); HTC Corp. v Lemaire Illumination Techs., LLC, IPR2019-00092, Paper 7 at 20 (PTAB Apr. 29, 2019) ("Petitioner . . . fails to identify structure described in the Specification of the '266 patent that corresponds to the claimed function as is required by 37 C.F.R. § 42.104(b)(3).... Consequently. Petitioner also fails to explain how that corresponding structure or an equivalent thereof is met by its proposed combination of [prior art references]."); ZTE Corp. v. Maxell, Ltd., IPR2018-00235, Paper 9 at 11 (PTAB June 1, 2018) ("Petitioner has not satisfied the claim construction requirement set forth in 37 C.F.R. § 42.104(b)(3) with respect to certain limitations in independent claims 1, 6, and 10. Based on this deficiency in the Petition, which affects all of the challenged claims, we deny institution of inter partes review."); Unified Patents Inc. v. Blackbird *Tech LLC*, IPR2017-01525, Paper 11 at 14 (PTAB Dec. 1, 2017) ("Petitioner does not 'identify the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function,' as required by our Rules (37 C.F.R. § 42.104(b)(3)), to enable us to determine if the asserted prior art teaches such structure. Thus, Petitioner

fails to demonstrate a reasonable likelihood of prevailing in its challenge to independent claims 2, 7, and 10 as well as its challenge to claims 11, 13, 16, and 19."); *Panel Claw, Inc. v. SunPower Corp.*, IPR2014-00386, Paper 7 at 9–10 (PTAB June 30, 2014) (Petitioner's failure to identify corresponding structure for a means-plus-function limitation warranted denial of institution for all claims that included that limitation).

Because the claims 2–10, 14, 15, and 18–22 depend, directly or indirectly, from claim 1, Petitioner's challenge to these claims fails for the same reasons.

These determinations apply to all grounds in the Petition: Ground 1 (claims 1–10, 14, 15, and 19–22); Ground 2 (claims 1 and 18); and Ground 3 (claim 18).

V. CONCLUSION

After considering the evidence and arguments presented in the current record, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail with respect to at least one claim of the '498 patent challenged in the Petition. Therefore, we do not institute *inter partes* review. Accordingly, we need not address Patent Owner's position that we should exercise discretion under 35 U.S.C. § 314(a) to deny institution.

VI. ORDER

Accordingly, it is

ORDERED that the Petition is denied and no *inter partes* review is instituted.

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