

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

T-MAX (HANGZHOU) TECHNOLOGY CO., LTD. and
T-MAX INDUSTRIAL (H.K.) CO. LTD.,
Petitioner,

v.

LUND MOTION PRODUCTS, INC.,
Patent Owner.

IPR2018-01637
Patent 9,302,626 B2

Before JOSIAH C. COCKS, CARL M. DEFRANCO, and
ALYSSA A. FINAMORE, *Administrative Patent Judges*.

FINAMORE, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Petitioner filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1–21 of U.S. Patent No. 9,302,626 B2 (“the ’626 patent”). Pet. 1. On March 14, 2019, we instituted trial. Paper 7.

After institution, Patent Owner filed a Response. Paper 12 (“PO Resp.”). Petitioner filed a Reply. Paper 14 (“Reply”). Absent a request from either party, no oral argument was held.

This Final Written Decision (“Decision”) is issued pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we conclude Petitioner has demonstrated that claims 1–21 of the ’626 patent are unpatentable by a preponderance of the evidence.

II. BACKGROUND

A. *Real Parties in Interest*

Petitioner identifies only itself as the real party in interest. Pet. 2. Namely, Petitioner identifies T-Max (Hangzhou) Technology Co., Ltd. and T-Max Industrial (H.K.) Co. Ltd. as real parties in interest. *Id.*

Patent Owner identifies itself, Lund Motion Products, Inc., as well as Lund International Holding Company and Highlander Partners, L.P., as real parties in interest. Paper 5, 1. In view of the acquisition of Lund International Holding Company, Patent Owner further identifies Tectum Holdings, Inc., Truck Hero, Inc., Truck Acquisition, Inc., Truck Holdings, Inc., and Truck Hero Holdings, Inc. as real parties in interest. Paper 10, 1.

B. Related Matters

The parties identify the following district court action as a related matter: *Lund Motion Products, Inc. v. T-Max (Hangzhou) Technology Co., Ltd.*, No. 8:17-cv-01914 (C.D. Cal. filed Oct. 31, 2017). Pet. 2; Paper 5, 1. Petitioner further identifies the following Board proceedings: IPR2018-01638 (PTAB filed Sept. 14, 2018) (challenging U.S. Patent No. 8,157,277 B2) and IPR2018-01636 (PTAB filed Sept. 18, 2018) (challenging U.S. Patent No. 9,561,751 B2). Pet. 2. In addition to these Board proceedings, we identify IPR2019-00503 (PTAB terminated May 2, 2019) (challenging U.S. Patent No. 10,053,017 B2, which claims priority as a continuation to the '626 patent). *See also* PO Resp. 13–14, 21–22 (discussing IPR2019-00503).

C. The '626 Patent (Ex. 1001)

The '626 patent relates to “a retractable vehicle step which is movable between a retracted or storage position and an extended position in which it functions as a step assist into the vehicle.” Ex. 1001, 1:15–18. Figure 4, reproduced below, illustrates an embodiment of the invention.

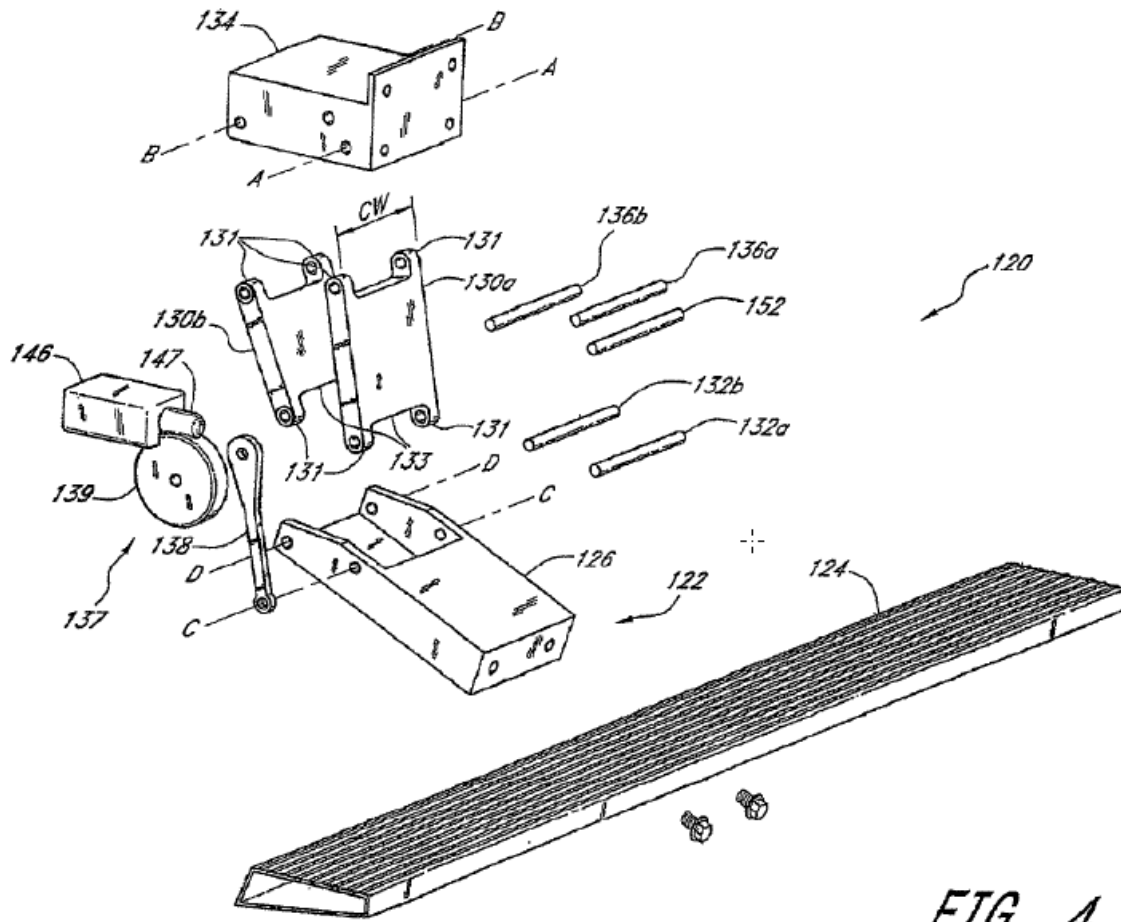


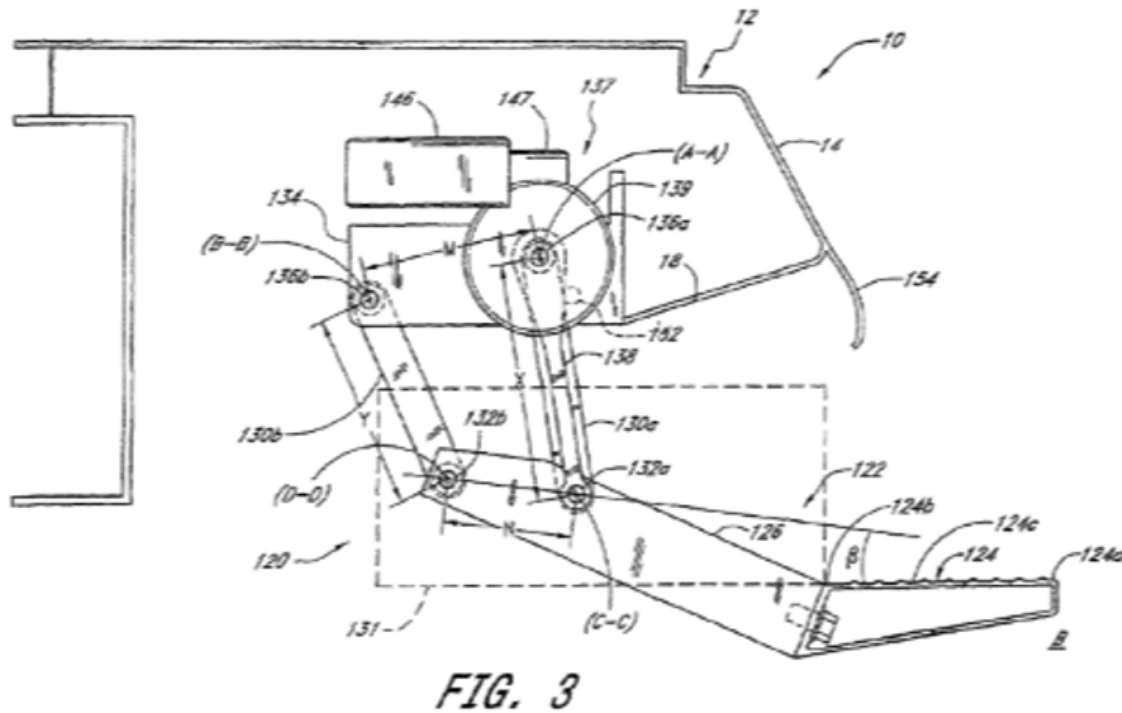
FIG. 4

Figure 4 is an exploded perspective view of an embodiment of a retractable vehicle step. *Id.* at 11:4–5. As shown in this figure, retractable vehicle step 120 comprises stepping member 122 that includes stepping deck 124 rigidly connected to support bracket 126. *Id.* at 15:5–8. Retractable step 120 further comprises front and rear support arms 130a, 130b rotatably connected to support bracket 126 via pins 132a, 132b. *Id.* at 15:10–12. Rigid frame 134 may be configured for connection to a vehicle underbody and provides a secure mounting for support arms 130a, 130b, which are rotatably mounted to frame 134 via pins 136a, 136b. *Id.* at 15:12–16.

As shown in Figure 4, retractable step 120 defines the following axes of rotation: first axis A-A about which front support arm 130a rotates with

respect to the vehicle underbody or frame 134; second axis B-B about which rear support arm 130*b* rotates with respect to the vehicle underbody or frame 134; third axis C-C about which front support arm 130*a* and support bracket 126 rotate with respect to each other; and fourth axis D-D about which rear support arm 130*b* and support bracket 126 rotate with respect to each other. *Id.* at 15:20–30. First axis A-A and second axis B-B are oriented generally parallel to the ground, and third axis C-C and fourth axis D-D are oriented generally parallel to first axis A-A and second axis B-B. *Id.* at 15:44–49.

With stepping member 122 moveably connected to frame 134 via support arms 130*a*, 130*b*, stepping member 122 can be moved between deployed position B and retracted position A shown respectively in Figures 3 and 5, reproduced below. *Id.* at 17:37–40.



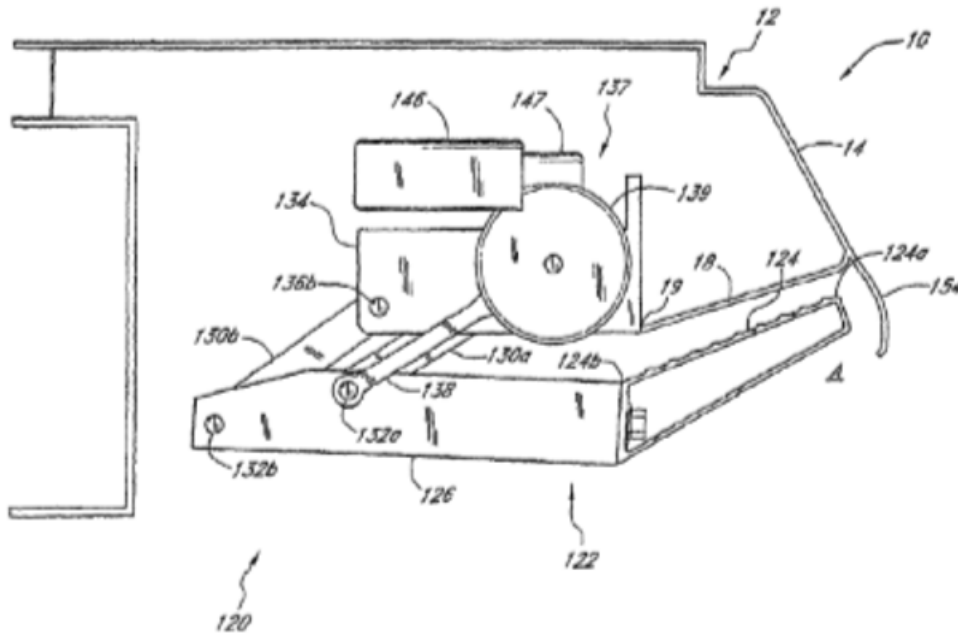


FIG. 5

Figures 3 and 5 are side elevation views of retractable step 120 in the deployed and retracted positions, respectively. *Id.* at 11:1–3, 6–7.

D. Challenged Claims

Petitioner challenges claims 1–21 of the '626 patent. Pet. 1. Claims 1, 8, and 15 are independent. Ex. 1001, 33:41–64, 34:23–50, 35:5–36:5. Independent claim 1, reproduced below with Petitioner’s labels, is illustrative:

1. [1.Preamble] A retractable step for attachment to a vehicle, the retractable step comprising:
 - [1.A] an attachment portion configured to connect to an underside of a vehicle;
 - [1.B] a pair of linkage arms, each of the linkage arms pivotably connected to the attachment portion at an attachment axis oriented generally parallel to the ground,
 - [1.B.1] wherein a first of the pair of linkage arms is located

more towards a longitudinal vehicle centerline than the second of the pair of linkage arms;

[1.C] a stepping member pivotably connected to the pair of linkage arms at a stepping axis oriented generally parallel to the ground, [1.C.1] wherein the stepping member comprises a stepping deck having a width greater than a width of each of the pair of linkage arms and configured to receive a force onto the stepping deck;

[1.D] wherein the retractable step is configured to translate between a deployed and retracted position by the rotation of the pair of linkage arms and the stepping member, [1.D.1] the stepping deck being located under the vehicle in the retracted position and at least partially extend from under the vehicle in the deployed position; and

[1.E] wherein one of said pair of linkage arms is longer than another of said pair of linkage arms.

Id. at 33:41–64.

E. Evidence

Petitioner relies on the following reference in asserting that claims 1–21 of the '626 patent are unpatentable. Pet. 1, 3–4.

Reference	Exhibit No.
Fr. Patent Application Publication No. 2,225,612 with certified English translation (“Fratta”) ¹	1005

Additionally, Petitioner relies on testimonial evidence. Petitioner submits a Declaration of Nathan J. Delson, Ph.D. (Ex. 1002) and his Rebuttal Declaration (Ex. 1014). Petitioner also submits a transcript of Dr. Delson’s deposition (Ex. 1015).

¹ The citations to Fratta herein refer to the page and line numbers of the English language translation, which is attached to the original French language document as part of Exhibit 1005.

Patent Owner does not proffer any testimony. Patent Owner does rely on IPR2019-00503, Paper 7 (PTAB May 2, 2019) (Ex. 2001), in which the Board denied institution of an *inter partes* review sought by Petitioner of related U.S. Patent No. 10,053,017 B2.

F. Asserted Ground of Unpatentability

Petitioner asserts the following ground of unpatentability. Pet. 1.

Challenged Claim(s)	35 U.S.C. §	Reference(s)/Basis
1–21	103(a) ²	Fratta

G. Fratta (Ex. 1005)

Fratta “relates to a retractable footboard with locking in the open and closed positions.” Ex. 1005, 1:1. Figures 1 and 2, reproduced below, show the retractable footboard.

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103, and the effective date of the relevant amendment is March 16, 2013. Petitioner acknowledges the earliest-claimed priority date of the ’626 patent is February 15, 2001, and applies the pre-AIA version of § 103. Pet. 1.

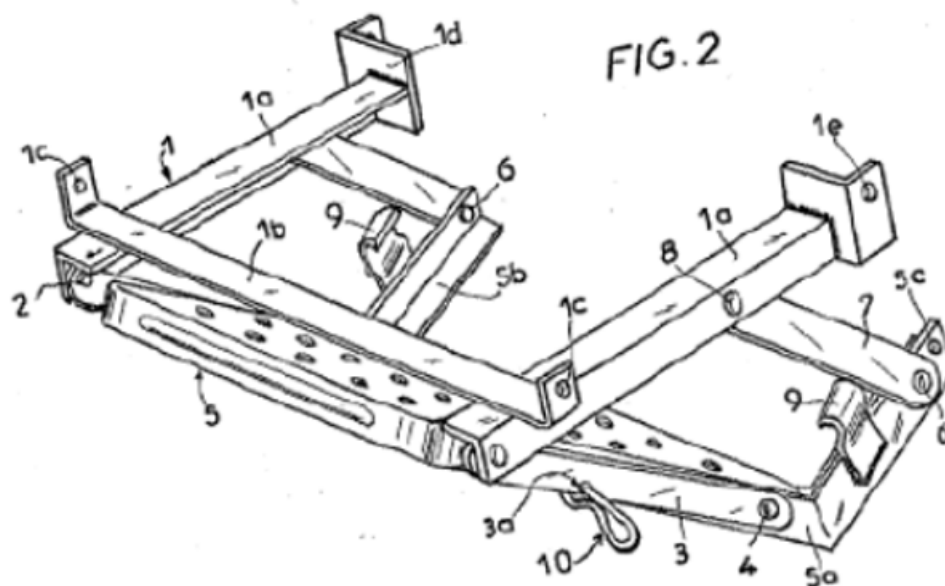
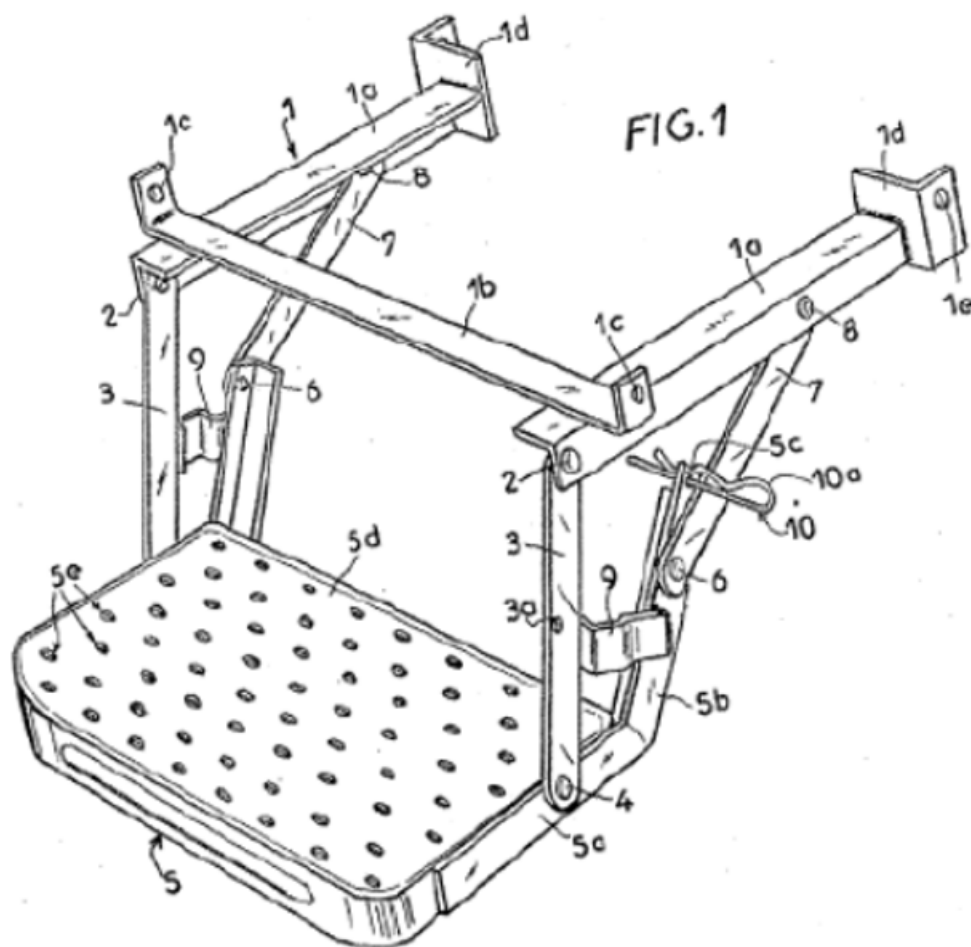


Figure 1 is a perspective view of the footboard in the open and locked position, and Figure 2 is a perspective view of the footboard in the closed and locked position. *Id.* at 1:26–27. As shown in Figures 1 and 2, the footboard comprises frame 1 for fastening to the vehicle. *Id.* at 1:35. The footboard further comprises step 5 including lateral uprights 5a with inclined ends 5b. *Id.* at 1:39–40. Step 5 is attached to frame 1 by arms 3 and connecting rods 7 via articulation points 2, 4, 6, 8. *Id.* at 1:38–41.

Articulation points 4, 6, 8 are positioned so as to allow the opening and closing maneuvers of the step. *Id.* at 1:42–43. In the open position shown in Figure 1, stops 9 secured to inclined ends 5b of step 5 abut against arms 3, while the rear end of each inclined end 5b extends past connecting rod 7 to allow pin 10 to be inserted into orifice 5c and prevent return to the closed position. *Id.* at 1:42–2:3. In the closed position shown in Figure 2, step 5 becomes inclined near crosspiece 1b of frame 1, and stops 9 press against connecting rods 7 so that pin 10 can be inserted into orifice 3c of at least one of arms 3 and prevent return to the open position. *Id.* at 2:3–6.

III. ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner asserts a person of ordinary skill in the art “would have possessed at least a Bachelor’s degree in mechanical engineering and at least one year of mechanical design experience in the area of mechanisms and linkages.” Pet. 16 (citing Ex. 1002 ¶ 29). Petitioner also argues its description of the level of ordinary skill is “approximate and additional educational experience in mechanical engineering could make up for less work experience and vice versa.” *Id.* (citing Ex. 1002 ¶ 29).

Patent Owner similarly argues a person of ordinary skill in the art “would have had a bachelor’s degree in mechanical engineering or other similar type of engineering degree, combined with at least one year of experience in the field of mechanical design or relevant product design experience.” PO Resp. 7. Patent Owner further contends that “[f]or individuals with different educational backgrounds, a person could still be of ordinary skill in the art provided that person’s additional experience compensates for any differences in that person’s education as stated above.” *Id.* Patent Owner also acknowledges that the difference between Petitioner’s proposed level of ordinary skill and that of Patent Owner “is immaterial to deciding the issues raised by the Petition.” *Id.*

Upon consideration of the record, including Fratta, we agree with Patent Owner that the difference between Petitioner’s and Patent Owner’s respective explanations of the level of ordinary skill in the art is inconsequential to considering Petitioner’s asserted ground of unpatentability. Our assessment of the merits of this proceeding would be the same under both of the proffered explanations, and, therefore, it is unnecessary to adopt one explanation of the level of ordinary skill in the art over the other.

B. Claim Construction

We interpret the claims of an unexpired patent using the broadest reasonable interpretation in light of the specification. 37 C.F.R. § 42.100(b) (2018); *see also* *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation

standard).³ Under this standard, we generally give a claim term its 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). Furthermore, we expressly construe terms only to the extent necessary to determine whether Petitioner has shown the challenged claims to be unpatentable. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

Petitioner proposes a construction for the claim term “translate.” Pet. 17–18; Reply 21. Patent Owner disagrees with Petitioner’s construction, but asserts that it is not necessary to address it. PO Resp. 8. We agree with Patent Owner that the term “translate” does not require an express construction to determine whether Petitioner has shown the challenged claims to be unpatentable.

C. Obviousness Based on Fratta

Petitioner challenges claims 1–21 of the ’626 patent under 35 U.S.C. § 103(a), and asserts the subject matter of these claims would have been

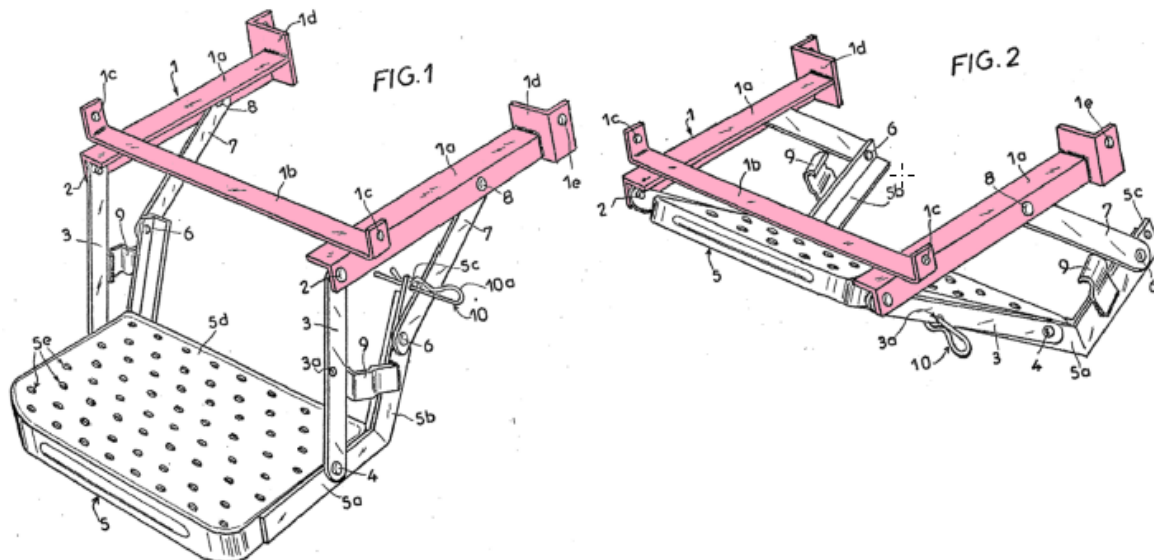
³ The Petition in this proceeding was filed on September 14, 2018, prior to the effective date of a rule change that replaces the broadest reasonable interpretation standard with the federal court claim interpretation standard. *See Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board*, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (codified at 37 C.F.R. § 42.100(b) (2019)) (amending 37 C.F.R. § 42.100(b) effective Nov. 13, 2018).

obvious over Fratta. Pet. 22–47; Reply 2–21. Patent Owner opposes Petitioner’s challenge. PO Resp. 10–23.

1. Independent claim 1

The preamble of independent claim 1 recites “[a] retractable step for attachment to a vehicle” (“[1.Preamble]”). Ex. 1001, 33:41. Petitioner asserts Fratta teaches a retractable step, referred to as a “retractable footboard,” as a vehicle accessory. Pet. 22–23 (citing Ex. 1002 ¶ 274; Ex. 1005, 1:4–6, 19–22, 35–41, Figs. 1–2).

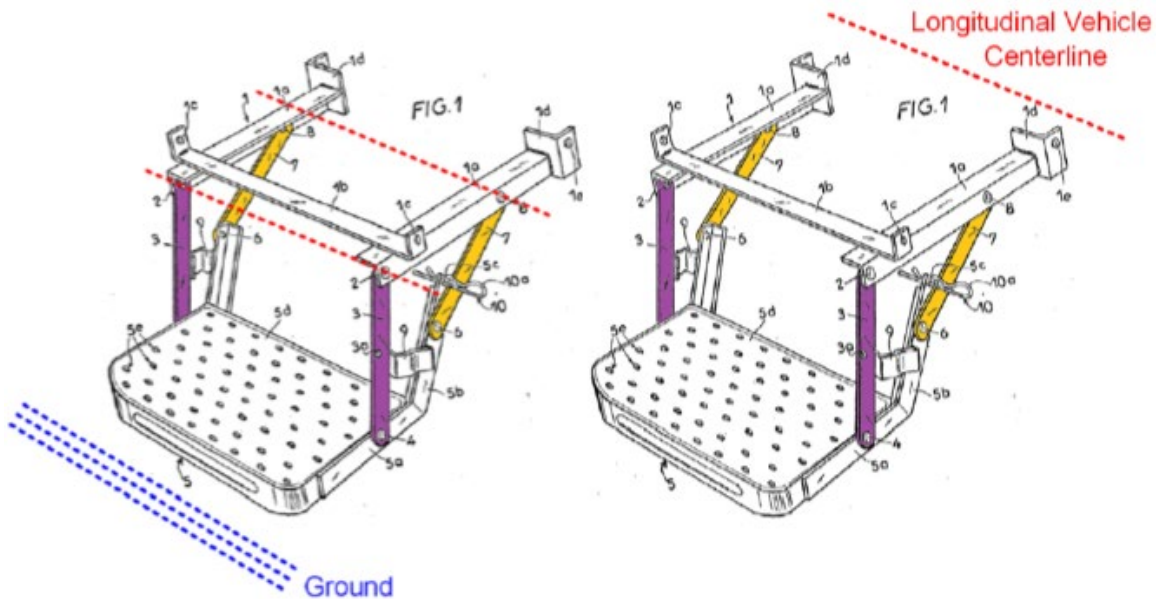
The claim further recites “an attachment portion configured to connect to an underside of a vehicle” (“[1.A]”). Ex. 1001, 33:43–44. Petitioner argues Fratta’s framework 1 discloses the recited attachment portion, as illustrated in its annotated versions of Fratta’s Figures 1 and 2, reproduced below. Pet. 23–24 (citing Ex. 1002 ¶ 276; Ex. 1005, 1:19–20, 35–37, Figs. 1–2).



Petitioner annotated the perspective views of the open and closed positions of Fratta's footboard shown in Figures 1 and 2, respectively, to depict framework 1 in pink.

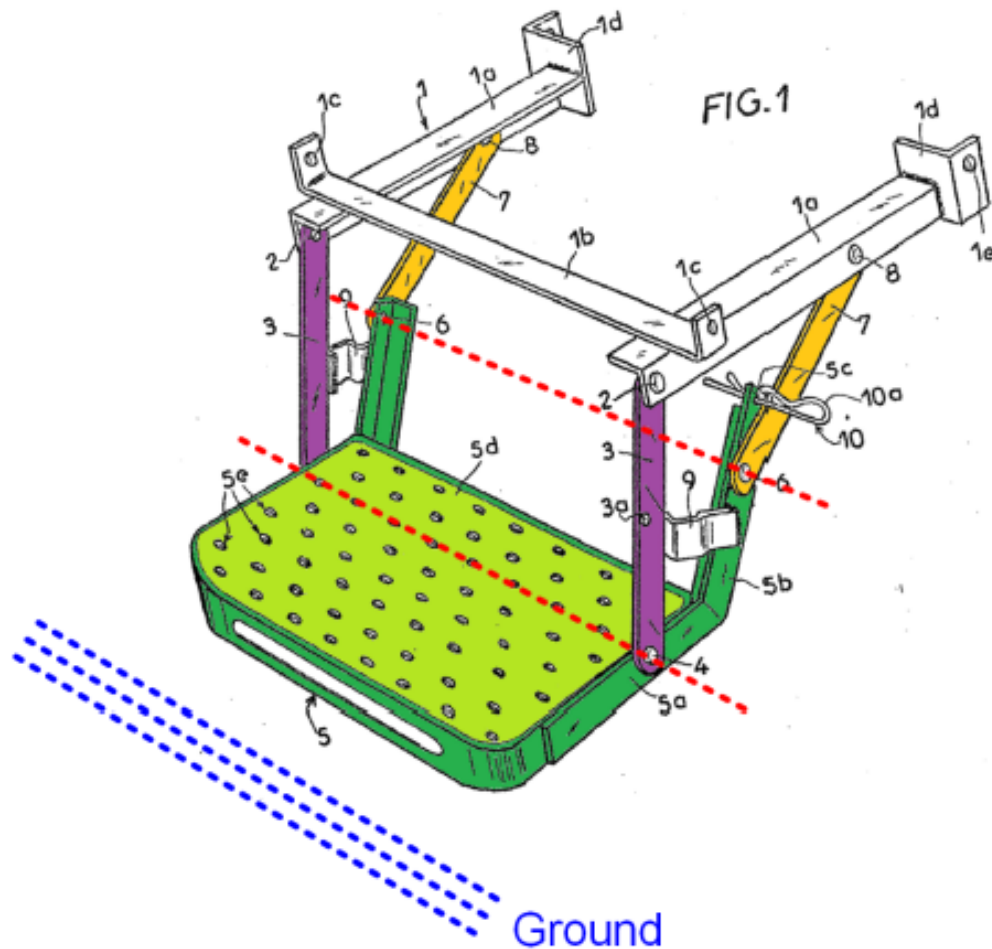
Independent claim 1 also recites “a pair of linkage arms, each of the linkage arms pivotally connected to the attachment portion at an attachment axis oriented generally parallel to the ground” (“[1.B]”), and “wherein a first of the pair of linkage arms is located more towards a longitudinal vehicle centerline than the second of the pair of linkage arms” (“[1.B.1]”).

Ex. 1001, 33:45–50. Petitioner relies on connecting rods 7 and arms 3 for the first and second arms of the pair, respectively, as shown in its annotated versions of Fratta's Figure 1, reproduced below. Pet. 24–26 (citing Ex. 1002 ¶¶ 278–279, 281; Ex. 1005, 1:19–22, 38–41, Figs. 1–2).



Petitioner annotated Fratta's Figure 1 to show connecting rods 7 and arms 3 in yellow and purple, respectively, and to depict the ground, the attachment axes of connecting rods 7 and arms 3, and the longitudinal vehicle centerline.

Independent claim 1 next recites “a stepping member pivotably connected to the pair of linkage arms at a stepping axis oriented generally parallel to the ground” (“[1.C]”). Ex. 1001, 33:51–53. Petitioner relies on Fratta’s step 5 for this limitation, as shown in its annotated version of Fratta’s Figure 1, reproduced below. Pet. 26–28 (citing Ex. 1002 ¶¶ 283–284; Ex. 1005, 1:38–43, Figs. 1–2).



Petitioner annotated Fratta’s Figure 1 to show step 5 in green, connecting rods 7 in yellow, and arms 3 in purple. Petitioner further annotated the figure to illustrate the ground and the axis of the pivoting connection between step 5 and each of rods 7 and arms 3.

[i]n addition to Figs. 1-2 of Fratta showing the width of sheet 5d is greater than a width of each of the connecting rods 7 and arms 3, it would have been obvious and merely a design choice to a [person of ordinary skill in the art] to select a wider step width than a width of the linkages to provide the proper support of the step by the linkages while avoiding adding unnecessary weight and volume to the retractable step.

Id. at 29 (citing Ex. 1002 ¶ 288).

Independent claim 1 additionally recites “wherein the retractable step is configured to translate between a deployed and retracted position by the rotation of the pair of linkage arms and the stepping member” (“[1.D]”), and Petitioner asserts at least Figures 1 and 2 of Fratta disclose this limitation. Ex. 1001, 33:57–59; Pet. 29–30 (citing Ex. 1002 ¶¶ 290–291; Ex. 1005, 1:16–2:6, Figs. 1–2). The claim further recites “the stepping deck being located under the vehicle in the retracted position and at least partially extend from under the vehicle in the deployed position” (“[1.D.1]”). Ex. 1001, 33:60–62. Petitioner argues Fratta’s Figures 1 and 2 disclose this limitation. Pet. 30. Petitioner also contends:

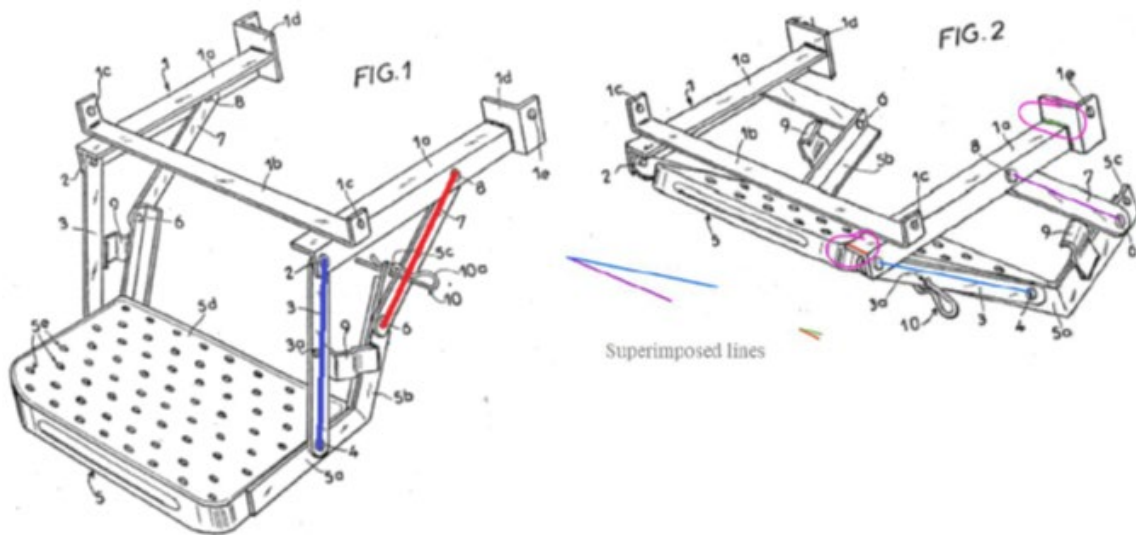
In addition to this showing in Figs. 1-2 of Fratta, it would have been obvious and a known design choice to a [person of ordinary skill in the art] to design a retractable step to be located under its frame when retracted in order to avoid the step protruding outward from the vehicle and thereby cause a potential hazard. EX1002 ¶¶ at 293-94.

Also, a [person of ordinary skill in the art] would have understood that a step which protrudes outward from a vehicle when retracted may detract from aesthetic aspects of the vehicle, and thus would have been motivated to design a retractable step that is hidden when retracted. EX1002 at ¶ 295.

Furthermore, it is obvious that, for deployment, a retractable step must extend at least partially from under the vehicle if it is located under the frame when retracted; otherwise it would not be a moveable step. EX1002 at ¶ 296.

Id. at 30–31.

Lastly, independent claim 1 recites “wherein one of said pair of linkage arms is longer than another of said pair of linkage arms” (“[1.E]”). Ex. 1001, 33:63–64. According to Petitioner, Fratta’s Figures 1 and 2 show arm 3 is longer than connecting rod 7, as illustrated in Petitioner’s annotated versions of these figures, reproduced below. Pet. 31–34 (citing Ex. 1002 ¶¶ 298–300; Ex. 1005, 1:26–27, Figs. 1–2).



Petitioner annotated Fratta’s Figure 1 showing the footboard in the open position to depict the length of arm 3 in blue and the length of connecting rod 7 in red. Petitioner annotated Figure 2 showing the footboard in the closed position to depict the lengths of arms 3 and connecting rods 7 in blue and purple, respectively, and the widths of the proximal and distal ends of frame 1a in red and green, respectively. Petitioner further annotated Figure 2 to superimpose the lengths shown in blue and purple and to similarly superimpose the widths shown in red and green. Petitioner also contends:

In addition to Fratta’s disclosure in Figures 1-2 showing the length of arms 3 is greater than a length of connecting rods 7,

it would have been obvious and a design choice to a [person of ordinary skill in the art] to select differing lengths for the linkages of a retractable step for various purposes, such as for rotation of the step so that it presents itself at different orientations in the retracted and deployed positions, e.g., step surface parallel to the ground in the deployed position and inclined in the retracted position. EX1002 at ¶ 301.

In the case of Fratta, Fratta was motivated to invent a retractable footboard that, *inter alia*, “is locked absolutely in the open and closed positions.” EX1005 at 1:16-18. To do so, Fratta configured the retractable footboard to have connecting rods 7 and arms 3 be of differing lengths and pivotably connected to the framework 1 and the platform uprights 5b and 5a at certain distances apart in order to (1) rotate the platform 5 between open position (Fig. 1) and closed position (Fig. 2) and (2) expose orifices 5c and 3a so that pin 10 can be inserted for locking the retractable footboard in the open and closed positions. EX1005 at 1:38-2:6; Figs. 1-2; EX1002 at ¶ 302.

Id. at 34–35.

On the other hand, Patent Owner argues that Fratta does not render obvious the subject matter of independent claim 1 because Fratta fails to disclose linkage arms of different lengths, as recited in limitation [1.E]. PO Resp. 17–23. Patent Owner also contends Petitioner has not met its burden to show obviousness in view of Fratta. *Id.* at 10–17.

a. “*wherein one of said pair of linkage arms is longer than another of said pair of linkage arms*” (“[1.E.]”)

Patent Owner argues that Figures 1 and 2 of Fratta do not disclose the recited linkage arms of different lengths. PO Resp. 18–20. According to Patent Owner, Figures 1 and 2 “are perspective views of the footboard and do not show the relative lengths of the arms at the same depth of field.” *Id.* at 19 (citing Ex. 1005, 1:26–27). Patent Owner also argues “arms 3 and rods 7 are not fully in view because their end portions are obscured by

framework 1 and beams 1a.” *Id.* Additionally, Patent Owner asserts that Fratta’s specification is silent about the lengths or relative lengths of arms 3 and rods 7, and, in this absence of written description support for the relative lengths, Petitioner cannot rely on Fratta’s figures to disclose the recited relative lengths of the arms. *Id.* at 19–20 (citing *Hockerson-Halberstadt, Inc. v. Avia Grp. Int’l, Inc.*, 222 F.3d 951, 956 (Fed. Cir. 2000); MPEP § 2125 (9th ed. rev. 08.2012, Jan. 2018)).

We agree with Patent Owner that Fratta’s written description does not expressly disclose the lengths of arms 3 and rods 7. Even so, Petitioner has demonstrated persuasively that Fratta discloses linkage arms with different lengths.

In *Hockerson-Halberstadt*, our reviewing court explained that “it is well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue.” 222 F.3d at 956. In *Hockerson-Halberstadt*, however, the Federal Circuit did not contemplate whether a party may rely on a figure in a prior art reference to disclose relative dimensions when the reference is otherwise silent regarding the dimensions. The court instead considered whether a patentee may rely on its patent drawings to show error in a disavowal of claim scope made during prosecution. *Id.* Specifically, the court held that a reasonable competitor, being aware that figures in a patent are not drawn to scale unless otherwise indicated, would understand the argument in the prosecution history as clearly disclaiming a particular width relationship, regardless of the fact that the patent includes figures showing that width relationship. *Id.* The precedent more squarely on point confirms that drawings can be relied upon

for what they reasonably disclose and suggest to one of ordinary skill in the art. *In re Aslanian*, 590 F.2d 911, 914 (CCPA 1979); *see also In re Mraz*, 455 F.2d 1069, 1072 (CCPA 1972) (“[W]e did not mean that things patent drawings show clearly are to be *disregarded*.”).

In Fratta’s Figure 2, the length of arms 3 appears greater than the length of rods 7. Dr. Delson acknowledges Fratta’s Figures 1 and 2 are perspective views, and explains why Figure 2 would have suggested to a person of ordinary skill in the art that the length of arms 3 is greater than the length of rods 7. Pet. 33–34; Reply 12–14; Ex. 1002 ¶ 300. Apart from relying on Fratta’s figures for disclosing arms with different lengths, Dr. Delson also testifies that Fratta discloses arms 3 and rods 7 have differing lengths because the different lengths are necessary to rotate platform 5 between the open and closed positions and to align orifices 5c and 3c to receive pin 10 therethrough and lock the footboard in the open and closed positions. Pet. 34–35; Reply 8; Ex. 1002 ¶ 302. Dr. Delson testified:

In the case of Fratta, Fratta was motivated to invent a retractable footboard that, *inter alia*, “is locked absolutely in the open and closed positions.” EX1005 at 1:16-18. To do so, Fratta configured the retractable footboard to have connecting rods 7 and arms 3 be of differing lengths and pivotably connected to the framework 1 and the platform uprights 5b and 5a at certain distances apart in order to (1) rotate the platform 5 between open position (Fig. 1) and closed position (Fig. 2) and (2) expose orifices 5c and 3a so that pin 10 can be inserted for locking the retractable footboard in the open and closed positions. EX1005 at 1:38-2:6; Figs. 1-2.

Ex. 1002 ¶ 302.

Dr. Delson’s testimony is un rebutted and finds support in Fratta. Petitioner, therefore, has shown persuasively that a person of ordinary skill in the art would have understood Fratta discloses “wherein one of said pair

of linkage arms is longer than another of said pair of linkage arms,” as recited in independent claim 1.

Patent Owner additionally argues that Petitioner fails to show it would have been obvious to modify Fratta’s disclosed footboard to include linkage arms with different lengths. PO Resp. 21–23. This argument is inapposite because Petitioner has demonstrated persuasively that Fratta discloses linkage arms with different lengths.

b. Obviousness in view of Fratta

Patent Owner argues Petitioner’s obviousness analysis is deficient because it does not identify the differences between Fratta and the challenged claims. PO Resp. 10–11. According to Patent Owner, “[f]or each and every claim element of Claims 1–7, the Petition states that ‘Fratta discloses the claim element [] or renders the claim element [] obvious.’” *Id.* (citing Pet. 22–42). Patent Owner contends Petitioner does not identify any claim limitations that require obviousness or that are not expressly disclosed in Fratta. *Id.* at 11.

We disagree with Patent Owner that Petitioner fails to ascertain the differences between Fratta and the claimed invention. Although, for each claim limitation, Petitioner makes the general statement that Fratta discloses the claim limitation or renders it obvious, Petitioner nonetheless provides an obviousness analysis for limitations [1.C.1], [1.D.1], and [1.E]. *See* Pet. 29–31, 34 (proposing to modify to Fratta to result in limitations [1.C.1], [1.D.1], and [1.E]). In doing so, Petitioner effectively posits that Fratta may be different than the claimed invention in that Fratta may not expressly disclose these limitations.

Patent Owner further argues Petitioner does not explain how a person of ordinary skill in the art would have modified Fratta to result in the claimed subject matter. PO Resp. 12–14. With specific reference to limitation [1.E], Patent Owner alleges that Petitioner maintains it would have been obvious to select differing lengths for the linkages of a retractable step, without any explanation of how a person of ordinary skill the art might modify Fratta’s disclosed arrangement. *Id.* at 13. According to Patent Owner, absent such an explanation, Petitioner has not demonstrated persuasively that the claimed subject matter would have been obvious, as evidenced by the Board’s decision denying institution in IPR2019-00503. *Id.* at 13–14 (citing Ex. 2001, 12–13).

We also disagree with Patent Owner that Petitioner has not explained how a person of ordinary skill in the art would have modified Fratta. As set forth above, Petitioner acknowledges that Fratta may not disclose claim limitations [1.C.1], [1.D.1], and [1.E] and proposes to modify Fratta to result in these limitations. *See* Pet. 29–31, 34 (proposing to modify to Fratta to result in limitations [1.C.1], [1.D.1], and [1.E]). By proposing to modify Fratta’s disclosed step to include missing limitations, Petitioner explains how a person of ordinary skill would have modified Fratta. Simply put, Petitioner’s proposed modification to Fratta is Petitioner’s explanation of how a person of ordinary skill in the art would have modified Fratta.

In regard to limitation [1.E], unlike Petitioner’s proffered rationale for modifying the prior art in IPR2019-00503, in which Petitioner reasons that changing the length of an arm would have been “a design choice with no impact on operation” (Ex. 2001, 12), Petitioner’s proffered reason to modify Fratta to have linkage arms with different lengths is exactly to affect

operation of Fratta’s footboard (Pet. 34). Namely, Petitioner reasons that a person of ordinary skill in the art would have modified Fratta’s disclosed footboard to include linkage arms with different lengths “so that it presents itself at different orientations in the retracted and deployed positions.” *Id.* Nonetheless, Patent Owner’s allegation that Petitioner has not shown how a person of ordinary skill would have modified Fratta to include linkage arms with different lengths in accordance with limitation [1.E] is inconsequential because, as set forth above, Petitioner has shown persuasively that Fratta discloses limitation [1.E].

Patent Owner additionally contends Petitioner does not explain why a person of ordinary skill in the art would have modified Fratta to result in the claimed subject matter. PO Resp. 14–17. Per Patent Owner: “Again, for each of the claim elements, the Petition simply argues that ‘Fratta discloses the claim element [] or renders the claim element [] obvious,’ without explaining why the claim element would be obvious.” *Id.* at 14–15 (citing Pet. 22–42). Patent Owner also argues that “Petitioner’s expert merely repeats, nearly word-for-word, the conclusory assertions of the Petition without providing any additional explanation or evidence,” and that “[s]uch conclusory testimony is simply not sufficient to establish a *prima facie* case of obviousness.” *Id.* at 16.

Patent Owner is correct that, for each claim limitation, Petitioner makes the general statement that Fratta discloses the claim limitation or renders it obvious. Nonetheless, as we observe above, for limitations [1.C.1], [1.D.1], and [1.E], Petitioner provides an obviousness analysis, including a reason why a person of ordinary skill in the art would have modified Fratta to result in the claimed subject matter. *See* Pet. 29–31,

34 (providing an obviousness analysis in regard to limitations [1.C.1], [1.D.1], and [1.E]). Moreover, Petitioner's reasoning is based on Dr. Delson's testimony. Dr. Delson's testimony does not simply parrot Petitioner's general statement that Fratta discloses the claim limitation or renders it obvious. Rather, Dr. Delson explains why a person of ordinary skill in the art would have modified Fratta to result in the claimed subject matter. Ex. 1002 ¶¶ 288, 293–296, 301. We conclude that the above-noted testimony of Dr. Delson is adequately supported by the record, and we credit that testimony.

c. Conclusion for independent claim 1

As set forth above, Petitioner has accounted for each limitation of independent claim 1 based on Fratta, and provides reasons why a person of ordinary skill in the art would have modified Fratta's disclosure in the manner set forth in the Petition. We determine that Petitioner's identification of each claim limitation and its reasoning are supported by Fratta and Dr. Delson's testimony, which likewise finds support in Fratta and is unrebutted. Petitioner, therefore, has shown, by a preponderance of the evidence, that independent claim 1 is unpatentable under 35 U.S.C. § 103(a) based on Fratta.

2. Independent claims 8 and 15

Independent claims 8 and 15 are similar to independent claim 1. *Compare* Ex. 1001, 34:23–50, 35:5–36:5, *with id.* at 33:41–64. Petitioner's contentions regarding independent claims 8 and 15 are substantively similar to its contentions regarding independent claim 1. *Compare* Pet. 42–43, 45–46, *with id.* at 22–35.

Patent Owner does not present arguments for independent claims 8 and 15 apart from its arguments for independent claim 1. For the reasons discussed above with respect to independent claim 1, Petitioner has shown, by a preponderance of the evidence, that independent claims 8 and 15 are unpatentable under 35 U.S.C. § 103(a) based on Fratta.

3. Dependent claims 2–7, 9–14, and 16–21

In addition to its contentions for the independent claims, Petitioner asserts that Fratta discloses each limitation of these dependent claims. Pet. 35–44, 46–47. Patent Owner does not present arguments for these dependent claims apart from its arguments for independent claim 1.

After considering the parties' arguments and evidence, we determine that Petitioner's identification of each claim limitation is supported by Fratta and Dr. Delson's testimony, which likewise finds support in Fratta and is un rebutted. Petitioner, therefore, has shown, by a preponderance of the evidence, that dependent claims 2–7, 9–14, and 16–21 are unpatentable under 35 U.S.C. § 103(a) based on Fratta.

IV. CONCLUSION⁴

Claims	35 U.S.C. §	Reference(s)/Basis	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
1–21	103(a)	Fratta	1–21	
Overall Outcome			1–21	

V. ORDER

In consideration of the foregoing, it is:

ORDERED that claims 1–21 of the '626 patent have been shown to be unpatentable, and

FURTHER ORDERED that, as this is a Final Written Decision, a party seeking judicial review of the Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

⁴ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding, 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. 37 C.F.R. §§ 42.8(a)(3), (b)(2).

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