

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LULULEMON ATHLETICA CANADA INC.
AND LULULEMON USA INC.,
Petitioner,

v.

NIKE, INC.,
Patent Owner.

IPR2023-00348
Patent 10,188,930 B2

Before JOSIAH C. COCKS, GEORGE R. HOSKINS, and
STEPHEN E. BELISLE, *Administrative Patent Judges*.

BELISLE, *Administrative Patent Judge*.

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

I. INTRODUCTION

lululemon athletica canada inc. and lululemon usa inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1, 5–7, and 12 (“Challenged Claims”) of U.S. Patent No. 10,188,930 B2 (Ex. 1001, “the ’930 patent”). Petitioner identifies itself along with lululemon athletica inc. and Curiouser Products, Inc. as real parties in interest. Pet. 64. Nike, Inc. (“Patent Owner”) identifies itself as a real party in interest (Paper 7, 2), and timely filed a Preliminary Response to the Petition (Paper 12, “Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314(b) (2018); 37 C.F.R. § 42.4(a) (2022). We may not institute an *inter partes* review “unless . . . 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). The “reasonable likelihood” standard is “a higher standard than mere notice pleading” but “lower than the ‘preponderance’ standard to prevail in a final written decision.” *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 13 (PTAB Dec. 20, 2019) (precedential). When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim. 37 C.F.R. § 42.108(a).

Applying those standards, and upon consideration of the information presented in the Petition and Preliminary Response, we determine that Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the ’930 patent is unpatentable. *See* 35 U.S.C. § 314; 37 C.F.R. § 42.4(a). Accordingly, we institute an *inter partes* review

as to all Challenged Claims of the '930 patent on all grounds raised in the Petition.

We base our factual findings and conclusions at this stage of the proceeding on the evidentiary record developed so far. This is not a final decision as to the construction of any claim term or the patentability of any claim. Any final decision shall be based on the full trial record, including any response timely filed by Patent Owner. Any arguments not raised by Patent Owner in a timely filed response may be deemed waived, even if they were presented in the Preliminary Response.

II. BACKGROUND

A. Related Matters

Petitioner indicates that Patent Owner asserted the '930 patent against Petitioner in a U.S. district court action, namely, *Nike, Inc. v. lululemon athletica inc. et al.*, Case No. 1:22-cv-00082-RA-OTW (S.D.N.Y.) (“District Court Action”), which is presently stayed. Pet. 65.

Although not identified by the parties, we note that the District Court Action also involves the following U.S. Patents against which Petitioner filed the noted requests for *inter partes* review: 8,620,413 (IPR2023-00438); 9,259,615 (IPR2023-00349); 9,278,256 (IPR2023-00189); 10,232,220 (IPR2023-00180); and 10,923,225 (IPR2023-00424).

B. The '930 Patent

The '930 patent is titled “Combinatory Score Having a Fitness Sub-score and an Athleticism Sub-score,” and issued January 29, 2019, from U.S. Patent Application No. 15/675,895, filed August 14, 2017. Ex. 1001, codes (10), (21), (22), (45), (54). The '930 patent claims priority through a

series of continuation and divisional applications to U.S. Provisional Patent Application No. 61/655,365, filed June 4, 2012. *Id.* at 1:8–14, codes (60), (63).

The '930 patent relates to “monitoring a user performing an athletic movement and/or exercise and generating a combinatory fitness athleticism score.” Ex. 1001, code (57). According to the '930 patent:

The score may comprise a fitness sub-score and a fitness [sic: an athleticism] sub-score. *The athletic movement may comprise a plurality of drills configured to test a plurality of fitness attributes and/or a plurality of athleticism attributes of the user.* At least one of the plurality of fitness attributes may be selected from the group consisting of: endurance, flexibility, strength and combinations thereof; and at least one of the plurality of athleticism attributes may be selected from the group consisting of: speed, agility, reaction, power, balance, and combinations thereof.

Id. (emphasis added). As used in the '930 patent, “an ‘athletic movement’ includes movements relating to fitness, exercise, flexibility, including movements that may be part of one or more single and multiple participant athletic competitions, exercise routines, and/or combinations thereof.” *Id.* at 4:7–11. Similarly, “[a] drill may include a predetermined number of exercises (e.g., pushups, squats, lunges, etc.) where system 100 prompts the user to perform a number of repetitions of each exercise.” *Id.* at 22:56–59. Further, “[a] plurality of drills may be presented to the user during a single session.” *Id.* at 23:24–25. “Calculation of the combinatory score and/or the sub-scores may be based upon combining a plurality of drill scores.” *Id.* at 24:63–65.

According to the '930 patent, “*example fitness attributes may include, but are not limited to: endurance, flexibility, strength and combinations*

thereof,” and “*example* athleticism attributes *may include, but are not limited to*: speed, agility, reaction, power, balance, and combinations thereof.” *Id.* at 23:36–41 (emphases added).

C. Illustrative Claim

The ’930 patent includes twenty claims, of which Petitioner challenges claims 1, 5–7, and 12. Claim 1 is the only challenged independent claim, and is reproduced below with bracketing added to mirror the parties’ usage thereof.

1. [pre] A computer-implemented method comprising:
 - [a] providing first instructions to a user to perform a first athletic movement;
 - [b] receiving, from a sensor, first activity data representing the first athletic movement;
 - [c] calculating with a processor, based on the first activity data, a first combinatory fitness-athleticism score;
 - [d] providing, in response to a triggering event, second instructions to the user to perform a second athletic movement;
 - [e] receiving, from the sensor, second activity data representing the second athletic movement;
 - [f] calculating, with the processor, based on the second activity data, a second combinatory fitness-athleticism score,
 - [g] wherein the first and the second combinatory fitness-athleticism scores each comprise a fitness sub-score and a separate athleticism sub-score of the user,
 - [h] wherein the fitness sub-score is calculated, by the processor, using one or more of an endurance fitness attribute, a flexibility fitness attribute and a strength fitness attribute of the user, and
 - [i] wherein the athleticism sub-score is calculated, by the processor, using one or more of a speed athleticism

attribute, an agility athleticism attribute, a reaction athleticism attribute, a power athleticism attribute and a balance athleticism attribute of the user.

Ex. 1001, 26:16–42.

D. Evidence of Record

Petitioner relies on the following patent and published patent application evidence.

Name	Patent Document	Exhibit
Lofi	WO 2006/111687 A1 ¹	1002
Maeueler	EP 2324762 A1	1003
Kitagawa	US 7,810,392 B2	1004

Pet. 14.

Petitioner also relies upon the Declaration of Dr. Gregory S. Fischer (Ex. 1005).

Patent Owner relies upon the Declaration of Dr. Scott G. McLean (Ex. 2001).

E. Asserted Challenges to Patentability

Petitioner challenges the patentability of claims 1, 5–7, and 12 of the '930 patent on the following bases.

¹ Petitioner submitted a certified English translation of WO 2006/111687 A1 in Ex. 1002 (i.e., this exhibit includes both original and translated versions), and citations herein to Lofi are to the translated version, namely, exhibit pages 28–55.

Claims Challenged	35 U.S.C. §	Reference(s)/Basis
1, 5–7	102 ²	Lofi
1, 5–7	103	Lofi, Kitagawa
1, 5–7, 12	103	Maeueler, Kitagawa

Pet. 15.

III.ANALYSIS

A. Applicable Law

Petitioner challenges the patentability of claims 1, 5–7, and 12 of the '930 patent on grounds that the claims are anticipated under 35 U.S.C. § 102 or would have been obvious under 35 U.S.C. § 103 in light of various references, namely Lofi, Maeueler, and Kitagawa. “In an [*inter partes* review], the petitioner has the burden from the onset to show *with particularity* why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)) (emphasis added). This burden never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review).

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. §§ 102 and 103 effective on March 16, 2013. Neither party argues, at least at this stage of the proceeding, that the outcome of this case would differ based on applying the pre-AIA or post-AIA versions of these laws.

To serve as an anticipatory reference under 35 U.S.C. § 102, “the reference must disclose each and every element of the claimed invention, whether it does so explicitly or inherently.” *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009). “The identical invention must be shown in as complete detail *as is contained in the . . . claim.*” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989) (emphasis added). The elements must be arranged as required by the claim, “but this is not an ‘*ipsissimis verbis*’ test,” i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 832–33 (Fed. Cir. 1990) (citing *Akzo N.V. v. United States Int’l Trade Comm’n*, 808 F.2d 1471, 1479 & n.11 (Fed. Cir. 1986)).

A claim is unpatentable under 35 U.S.C. § 103 if “the differences between the subject matter sought to be patented 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.” *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 of record, objective evidence of obviousness or non-obviousness, i.e., secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Objective indicia of non-obviousness may include the following: “commercial success, long felt but unsolved needs, failure of others, etc.”³ *Id.* The totality of the evidence

³ At this stage of the proceeding, Patent Owner has not presented objective evidence of non-obviousness.

submitted may show that the challenged claims would not have been obvious to one of ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984). When evaluating a combination of teachings, we must also “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

B. Level of Ordinary Skill in the Art

Petitioner contends that a person of ordinary skill in the art, at the time of the invention of the '930 patent,

would have had (1) a bachelor's degree in engineering, computer science, industrial design, biomechanics, or a related field, and (2) at least two years of experience researching, developing, designing, and/or testing fitness or physiological sensors, wearable devices, physiological or biomechanical devices, remotely-controlled systems or interfaces, and/or network-based applications and/or equipment, or the equivalent experience or education.

Pet. 13 (citing Ex. 1005 ¶ 44).

Patent Owner does not present an alternative definition at this stage of the proceeding. *See* Prelim. Resp. 13 (“For the purposes of this Preliminary Response only, [Patent Owner] applies [Petitioner’s] proposed level of skill in the art.”).

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active

workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). The level of ordinary skill in the art also is reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

Neither party argues, at least at this stage of the proceeding, that the outcome of this case would differ based on our adoption of any particular definition of the level of ordinary skill in the art. Considering the subject matter of the '930 patent, the background technical field, the prior art, and Petitioner's proposed and unopposed definition of the skilled artisan, we apply the level of skill set forth above, which is consistent with the testimony of Dr. Fischer (Ex. 1005 ¶ 44).

C. Claim Construction

We construe claims “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b) (2020); *see also Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

In this context, claim terms “are generally given their ordinary and customary meaning” as understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips*, 415 F.3d at 1312–13; *accord CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (There is “a ‘heavy presumption’ that a claim term carries its ordinary and customary meaning.”). “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of

record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). Extrinsic evidence is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Phillips*, 415 F.3d at 1317.

Only those claim terms that are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (stating that “we 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 submits “no constructions are necessary to resolve any disputes identified in this Petition” (Pet. 14), and “[Patent Owner] agrees,” contending that “[a]ll terms and phrases in the ’930 patent have their ordinary and customary meanings, which are readily apparent, and no further construction is required” (Prelim. Resp. 14). In determining whether Petitioner has demonstrated a reasonable likelihood of establishing unpatentability of at least one challenged claim in this case, we need not and do not construe expressly any claim terms. *See Nidec*, 868 F.3d at 1017.⁴

⁴ Although Patent Owner contends that it is not providing a construction of any claim term, we are cognizant that Patent Owner presents what amounts to an interpretation of the claim term “first athletic movement” within the body of its Preliminary Response in alleging deficiencies in the prior art vis-à-vis the claims of the ’930 patent. *See, e.g.*, Prelim. Resp. 16–18.

D. Alleged Anticipation of Claims 1 and 5–7 by Lofi

Petitioner contends claims 1 and 5–7 are unpatentable under 35 U.S.C. § 102 as anticipated by Lofi (Ex. 1002). Pet. 8–10, 15–27. Patent Owner opposes Petitioner’s contentions. Prelim. Resp. 5–8, 14–26. Based on our review of the record before us, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing that claims 1 and 5–7 are unpatentable as anticipated by Lofi, as discussed below. We turn first to an overview of Lofi.

1. Overview of Lofi (Ex. 1002)

Lofi relates to a device for evaluating a person’s physical fitness, as shown, for example, in Figure 2, reproduced below. Ex. 1002, code (54), Fig. 2.

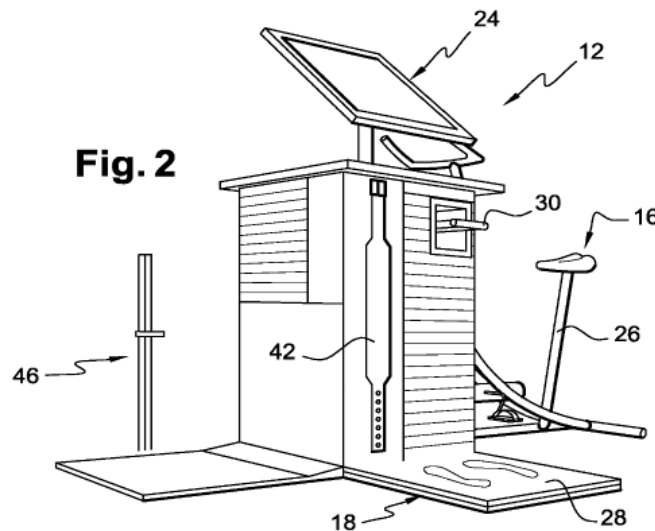


Figure 2 depicts a perspective view of a measurement terminal of physical fitness parameters.

We consider that interpretation below in assessing Petitioner’s proposed grounds of unpatentability.

Lofi discloses terminal device 12 for “evaluating the physical fitness of a person comprising an endurance measuring means (16), body composition measuring means (18), muscular strength measuring means (20),” as well as means 22 for measuring flexibility and means 28 for measuring balance. Ex. 1002, Abstract, 3:21–26, 8:8–9:17.

Lofi discloses various fitness tests to assess endurance, strength, balance, and flexibility. For example, to test endurance, Lofi discloses “[a] person is asked to pedal [ergometric bicycle 26] for a period of 8 minutes and the workload is increased progressively.” Ex. 1002, 4:4–8. To test strength, “the person is asked to pedal [ergometric bicycle 26] as fast as possible for a short period of approximately 10 seconds” while resistance on the bicycle’s pedals is rapidly increased. *Id.* at 5:9–16. To test balance, an individual is instructed to step onto scale 28, then stand while being supported on both feet with eyes open, followed by standing while being supported on both feet with eyes closed, followed by standing while being supported on one foot. *Id.* at 8:8–9:17. To test flexibility, an individual is instructed to bring pallet 46 “as low as possible, bending forwards without giving way to their legs.” *Id.* at 7:20–8:7.

For each fitness test, Lofi discloses means for monitoring the individual using one or more sensors. For example, sensors may be worn in abdominal belt 42 (such as pressure sensors 44) or may be located in terminal device 12. Ex. 1002, 6:24–25, 6:4–6 (“force sensor”), 8:8–9 (“statokinesimeter 56”; “pressure sensors 58”). Lofi discloses terminal device 12 receives measurement data from the sensors corresponding to the physical activity for each test. *Id.* at 2:23–25, 3:17–4:2. Terminal device 12 also includes “means of processing” to determine a score

for each test by comparing collected measurement data to a distribution curve corresponding to a person's population group. *Id.* at 2:23–25. Terminal device 12 then presents users with “overall score[s],” corresponding to weighted averages of multiple fitness tests, as well as scores for individual fitness tests. *Id.* at 10:16–25, 11:20–22.

We further discuss below the disclosure of Lofi in connection with the parties' arguments.

2. *Analysis*

a. *Independent Claim 1*

Petitioner provides an element-by-element analysis of independent claim 1 in relation to Lofi. Pet. 8–10, 15–25. Patent Owner opposes. Prelim. Resp. 5–8, 14–26. Although Petitioner refers generally in its Petition to its expert's testimony concerning anticipation by Lofi (*see* Pet. 2–3; Ex. 1005 ¶¶ 47–74), Petitioner's analysis of anticipation by Lofi does not explicitly cite to such testimony (*see* Pet. 15–25; Prelim. Resp. 19 (Patent Owner urging Board to “disregard” Dr. Fischer's testimony on anticipation because Petitioner “never cites to it.”)). As discussed below, Petitioner contends each limitation in claim 1 is disclosed by Lofi.

(1) [1[pre]] *A computer-implemented method comprising:*

Petitioner contends Lofi meets the preamble by disclosing a method implemented on an apparatus, such as terminal device 12, that ““make[s] it possible for a person to evaluate their physical fitness autonomously and reliably.”” Pet. 15 (quoting Ex. 1002, 2:10–12). Petitioner argues “[t]he method relies on a processing means in the apparatus that calculates scores based on data received from sensors.” Pet. 16 (citing Ex. 1002, 11:20

(“The processing means 60 [analyze] the measurements and decide on the scores.”)). Patent Owner does not contend otherwise at this stage of the proceeding. Nonetheless, the burden remains on Petitioner to demonstrate unpatentability. *See Dynamic Drinkware*, 800 F.3d at 1378. For the reasons stated in the Petition at pages 15–16, Petitioner sufficiently establishes that Lofi discloses this preamble.⁵

(2) [1[a]] providing first instructions to a user to perform a first athletic movement;

Petitioner contends Lofi discloses limitation 1[a] by describing, *inter alia*, that terminal device 12 provides instructions to users to perform various fitness and athleticism tests, including: an endurance test using a bicycle; a strength test using a bicycle or an abdominal belt; a flexibility test using portable pallet 46; a balance test using scale 28; and a reaction test. Pet. 16 (citing Ex. 1002, 1:13–15, 4:4–8, 5:13–16, 6:24–7:5, 7:16–18, 7:20–24, 8:1–3, 8:8–9:2, Fig. 3). Petitioner contends these tests are performed “in response to instructions from Lofi’s terminal, which includes a screen/display 24 that allows the tests to be performed ‘autonomously.’” Pet. 18 (citing Ex. 1002, 2:10–12, 9:18–20); *see id.* (“[T]he user being tested ‘is asked’ to perform the procedure for each test.” (citing Ex. 1002, 1:7, 4:7, 5:4, 5:13, 6:18, 7:2–4, 7:14, 8:1, 8:25, 11:13))).

For the reasons stated in the Petition at pages 16–18, Petitioner sufficiently establishes that Lofi discloses limitation 1[a]. Patent Owner does not contend otherwise at this stage of the proceeding.

⁵ Neither party at this stage of the proceeding argues that the preamble of claim 1 is limiting. We likewise express no view herein.

(3) [1[b]] receiving, from a sensor, first activity data representing the first athletic movement;

Petitioner contends Lofi discloses limitation 1[b] by describing, *inter alia*, various sensors collecting and transmitting data representing users' various fitness and athleticism tests, including: "a sensor to measure 'the person's heart rate'"; a sensor to measure "the speed of pedaling"; "one or more pressure sensors 44' which can 'measure the action of abdominal muscles'"; and an encoder sensor used "to measure the displacement of portable pallet 46." Pet. 18–20 (citing, *inter alia*, Ex. 1002, 1:4–6, 4:7–13, 6:24–7:1, 8:3–4).

For the reasons stated in the Petition at pages 18–20, Petitioner sufficiently establishes that Lofi discloses limitation 1[b]. Patent Owner does not contend otherwise at this stage of the proceeding.

(4) [1[c]] calculating with a processor, based on the first activity data, a first combinatory fitness-athleticism score;

Petitioner contends Lofi discloses limitation 1[c] by describing, *inter alia*, means for processing 60 using data to calculate a combinatory fitness-athleticism score. See Pet. 20–22. Specifically, Petitioner argues, in full:

Lofi further teaches a terminal as a means for processing the measurements associated with a fitness test (*e.g.*, endurance, strength, balance, reaction time, and flexibility) and returning the result to the user. ([Ex. 1002,] 3:17–20.) Lofi's terminal thus represents a processor. *The terminal enables collection of "different measurements" corresponding to an individual's performance on each test (e.g., activity data) "to facilitate the evaluation of their physical fitness, autonomously and with reliability."* (*Id.* at 9:18–20.) The terminal also contains "for each measurement a distribution curve for different populations characterized, each at least with regard to an age range, height

range and gender of persons (a curve for each different population).” (*Id.* at 9:21–24.)

In order to calculate a score for each fitness test, “the means of processing determine[s] a score comparing the measured value with the distribution curve corresponding to the person’s population group.” (*Id.* at 10:7–15.) Lofi further teaches that the means of processing allocates an aggregate combined score to the person. *This aggregate score corresponding to an individual’s overall physical fitness may be equivalent to the weighted average of each fitness test score “with a coefficient 1 for the measurement of body composition, a coefficient 1 for measurement of endurance, a coefficient 1 for measurement of the muscular strength. . . .”* (*Id.* at 10:16–19.) According to Lofi, “the processing means 60 analyse[s] the measurements and decide[s] on the scores.” (*Id.* at 11:20.) *The user is then presented with a display of “the overall score of physical fitness together with scores for each measure.”* (*Id.* at 11:20–22.)

Pet. 20–22 (emphases added); *see id.* at 22 (discussing limitation 1[d], and reviewing generally how Lofi discloses limitations 1[a]–1[c]).

Patent Owner contends “[t]he ‘first activity data’ in limitation 1C is measured from a *single* athletic movement, namely the ‘first athletic movement.’” Prelim. Resp. 18. In other words, according to Patent Owner, “the ‘first activity data’ recited in claim 1 must (i) derive from a *single* athletic movement and (ii) include *separate* measurements of both fitness and athleticism.” *Id.* Patent Owner argues, repeatedly, that neither Lofi nor any other cited art, whether alone or in combination, discloses “calculating *both* a fitness sub-score and an athleticism sub-score (and as a result, a combinatory fitness-athleticism score) based on a *single* ‘athletic movement’ and a *single* ‘set of instructions.’” *Id.* at 16; *see id.* at 17 (same; “[T]he Lofi device does not measure *both* fitness and athleticism components from a

single ‘athletic movement.’”); Ex. 2001 ¶¶ 54–59 (Patent Owner’s expert, Dr. McLean, discussing limitation 1[c].). We find Patent Owner’s arguments unavailing.

First, we preliminarily find that Patent Owner’s and its expert’s interpretation of a “*first* athletic movement” in claim 1 to mean a “*single* athletic movement” is belied by the Specification and lacks sufficient support in the record before us.

Indeed, the ’930 patent explicitly defines an “athletic *movement*” to “include[] *movements* [plural] relating to fitness, exercise, flexibility, including *movements* that may be part of one or more single and multiple participant athletic competitions, exercise routines, and/or combinations thereof” (Ex. 1001, 4:7–11 (emphases added)), and explains that “[*t*]he *athletic movement* may comprise a *plurality of drills* configured to test a *plurality* of fitness attributes *and/or* a *plurality* of athleticism attributes of the user” (*id.* at code (57) (emphases added)). The ’930 patent explains that “[a] combinatory score, a component sub-score, or values utilized in determining a score and/or sub-score . . . may be calculated or derived from the user’s performance during [] physical *movements* with predefined criteria, such as predefined *drills or tests* [both plural].” Ex. 1001, 22:43–48 (emphases added). The ’930 patent also explains that “system 100 may prompt user 124 to perform *one or more exercises that are part of a drill*,” where “[a] drill may include a *predetermined number of exercises* (e.g., pushups, squats, lunges, etc.) where system 100 *prompts* the user to perform a number of repetitions *of each exercise*.” *Id.* at 22:54–59 (emphases added). In addition, the ’930 patent states, “[c]alculation of the combinatory score and/or the sub-scores may be based upon *combining a plurality of drill*

scores.” Id. at 24:63–65 (emphasis added). Patent Owner does not address any of these explicit disclosures in the ’930 patent in proffering, in conclusory form, that “a first athletic movement” means a “single” athletic movement or exercise.

Based on the foregoing disclosures in the ’930 patent, and contrary to Patent Owner’s arguments, we preliminarily find that a “first athletic movement” does not exclude multiple “movements,” exercises, or drills, performed in response to “multiple” instructions (or a set of instructions directed to such multiple movements, exercises, or drills). *See* Ex. 1001, 26:57–60 (Dependent Claim 6: “[W]herein the first instructions and the second instructions include a *plurality of drills* configured to test a *plurality of fitness attributes* of the user and a *plurality of athleticism attributes* of the user.” (emphases added)). In other words, we preliminarily find that multiple “movements,” exercises, or drills may constitute a “first athletic movement,” and that activity data representing such multiple movements, exercises, or drills collectively may constitute “first activity data.” *See* Ex. 1005 ¶ 106 (“It should be noted that there is nothing in the ’930 patent limiting the athletic activity or athletic movement to a single drill or test.”), ¶ 65 (“The ’930 patent makes it clear that it is NOT necessary to generate a single combined number or score, and that ‘In certain embodiments, *the combinatory score may be represented by the two individual sub-scores.*’” (quoting Ex. 1001, 22:34–36) (emphasis altered)).

Second, we preliminarily find that, even if we were to agree that a “first” athletic movement requires a “single” athletic movement, the “athletic movement” itself still would encompass “multiple” movements, exercises, or drills as discussed above. But as discussed above, based on the

record before us, we preliminarily find that the record does not support “first” meaning “single” in this context.

Finally, Patent Owner’s arguments here appear to depend on a particular construction of “first athletic movement” (and of “first instructions” and “first activity data”) that Patent Owner has not yet proffered and supported. We encourage the parties during trial to submit proposed constructions for the subject limitations, including addressing the disclosures in the ’930 patent discussed above.

Based on the foregoing reasons, and for the reasons stated in the Petition at pages 20–22, Petitioner sufficiently establishes that Lofi discloses limitation 1[c].

(5) [1[d]] providing, in response to a triggering event, second instructions to the user to perform a second athletic movement;

Petitioner contends Lofi discloses limitation 1[d] by describing, *inter alia*, (1) “[a] user can repeat the tests [discussed above concerning limitations 1[a]–1[c]] to ‘revise their [] results’”; and (2) “a user can revise the result (i.e., score) of a previous test by entering a username and password at a terminal and repeating the test.” Pet. 22–23 (citing, *inter alia*, Ex. 1002, 12:1–7). Petitioner contends “[t]he user entering a username and password is the triggering event,” and in response to this “triggering event,” “second instructions” are provided to the user to perform a “second athletic movement.” Pet. 23.

Patent Owner argues Petitioner’s contentions here “fail for two reasons: (1) [Petitioner] contradicts its earlier position on what constitutes a ‘first athletic movement’ and (2) rather than identifying a ‘second set of instructions,’ [Petitioner] relies on Lofi’s disclosure of repeating the ‘first set

of instructions.” Prelim. Resp. 21. We find Patent Owner’s arguments unavailing.

As for reason (1), Patent Owner argues that, “[p]reviously, when asserting that Lofi meets limitation 1A, [Petitioner] argued that *each* individual test described in Lofi constitutes a ‘first athletic movement,’” “[b]ut when asserting that Lofi meets limitation 1D, [Petitioner] argues that an entire series of tests disclosed by Lofi corresponds to a ‘first athletic movement.’” Prelim. Resp. 21–22. Based on our understanding of Petitioner’s arguments discussed above for limitations 1[a]–1[c], we disagree that the noted contentions of Petitioner are contradictory. In particular, in its showing for the “first combinatory fitness-athleticism score” based on the “first activity data” representing the “first athletic movement” in limitation 1[c], Petitioner argues Lofi discloses that an “aggregate score corresponding to an individual’s overall physical fitness may be equivalent to *the weighted average of each fitness test score* ‘with a coefficient 1 for the measurement of body composition, a coefficient 1 for measurement of endurance, [and] a coefficient 1 for measurement of the muscular strength.’” Pet. 22 (emphasis added). Here, Petitioner relies on multiple tests as a first athletic movement to collectively provide first activity data for determining the combinatory score. *See, e.g.*, Pet. 24 (“The combinatory scores are the result of a user completing an endurance, strength, flexibility, balance and reaction time tests. An aggregate score is presented to the user as well as individual scores for each test.”). Although Petitioner perhaps could have presented its arguments for limitations 1[a]–1[c] more clearly, they nonetheless align sufficiently with its summary statement in the context of limitation 1[d] that “Lofi discloses providing

instructions to a user to perform an athletic movement corresponding to several tests” (Pet. 22).

As for reason (2), Patent Owner argues that repeating “first instructions” to perform a “first athletic movement” cannot disclose providing “second instructions” to perform a “second athletic movement.” Prelim. Resp. 22–23. Patent Owner complains that “[Petitioner] points to the exact same instructions as both the ‘first instructions’ and ‘second instructions’; and [Petitioner] points to the exact same athletic movement as the ‘first athletic movement’ and the ‘second athletic movement.’” *Id.* at 23. Based on the record before us, we disagree.

First, Patent Owner does not identify, and we preliminarily do not find, any limitation in claim 1 or disclosure in the Specification that requires the “first” and “second” athletic movements to include different types of exercises, drills, or movements relative to one another. Second, we disagree with Patent Owner that performing exercises A, B, and C at a given time, in the context of claim 1, is the “exact same” athletic movement as performing exercises A, B, and C again at another time. Finally, although Patent Owner states the proposition that different claim terms are presumed to have different meanings, Patent Owner neither illuminates those “different meanings,” nor provides any explanation as to why Lofi’s two separate performances by a user of exercises A, B, and C, for example, does not qualify as first and second athletic movements.

Based on the foregoing reasons, and for the reasons stated in the Petition at pages 22–23, Petitioner sufficiently establishes that Lofi discloses limitation 1[d].

(6) [1[e]] receiving, from the sensor, second activity data representing the second athletic movement;

Petitioner contends Lofi discloses limitation 1[e] because, “[w]hen a user repeats the tests to ‘revise their [] results,’ second activity data representing the second athletic movements will be received by the processing unit” for the same reasons discussed above regarding limitations 1[a] and 1[b]. *See supra* Sections III.D.2.a.2–3.

For the reasons stated in the Petition at page 23, Petitioner sufficiently establishes that Lofi discloses limitation 1[e]. Patent Owner does not contend otherwise at this stage of the proceeding.

(7) [1[f]] calculating, with the processor, based on the second activity data, a second combinatory fitness-athleticism score,

Petitioner contends Lofi discloses limitation 1[f] because, “[w]hen a user repeats the tests to ‘revise their [] results,’ a new combinatory fitness-athleticism score is calculated based on the second activity data received as part of the new test,” and therefore, Lofi discloses limitation 1[f] for the same reasons discussed above regarding limitation 1[c] and 1[d]. *See supra* Sections III.D.2.a.4–5.

Patent Owner disputes Petitioner’s evidentiary showing here for the same reasons as for limitations 1[c] and 1[d], which at this stage of the proceeding and based on the record before us, we find unavailing as discussed above. Prelim. Resp. 24–26; *see supra* Sections III.D.2.a.4–5.

For the reasons stated in the Petition at page 24, Petitioner sufficiently establishes that Lofi discloses limitation 1[f].

(8) [1[g]] wherein the first and the second combinatory fitness-athleticism scores each comprise a fitness sub-score and a separate athleticism sub-score of the user,

Petitioner contends Lofi discloses limitation 1[g] because, in Lofi, the “combinatory fitness-athleticism scores” discussed above concerning limitations 1[c] and 1[f] are calculated in the same manner, namely, “[t]he combinatory scores are the result of a user completing an endurance, strength, flexibility, balance and reaction time tests,” and “[a]n aggregate score is presented to the user as well as individual scores for each test.” Pet. 24 (citing Ex. 1002, 11:20–24); *see supra* Sections III.D.2.a.2, 4, 5, 7. Petitioner argues “[t]he scores for Lofi’s strength, flexibility, and endurance tests each correspond to the claim’s fitness sub-score while Lofi’s scores for its balance and reaction time tests corresponds to the claim’s athleticism sub-score.” Pet. 24.

For the reasons stated in the Petition at page 24, Petitioner sufficiently establishes that Lofi discloses limitation 1[g]. Patent Owner does not contend otherwise at this stage of the proceeding.

(9) [1[h]] wherein the fitness sub-score is calculated, by the processor, using one or more of an endurance fitness attribute, a flexibility fitness attribute and a strength fitness attribute of the user, and

Petitioner contends Lofi discloses limitation 1[h] by describing, *inter alia*, “individual fitness tests each resulting in corresponding scores for endurance, flexibility, and strength.” Pet. 25; *see supra* Sections III.D.2.a.2, 8.

For the reasons stated in the Petition at page 25, Petitioner sufficiently establishes that Lofi discloses limitation 1[h]. Patent Owner does not contend otherwise at this stage of the proceeding.

(10) *[1[i]] wherein the athleticism sub-score is calculated, by the processor, using one or more of a speed athleticism attribute, an agility athleticism attribute, a reaction athleticism attribute, a power athleticism attribute and a balance athleticism attribute of the user.*

Petitioner contends Lofi discloses limitation 1[i] by describing, *inter alia*, “individual fitness tests each resulting in corresponding scores for balance and reaction.” Pet. 25; *see supra* Sections III.D.2.a.2, 8.

For the reasons stated in the Petition at page 25, Petitioner sufficiently establishes that Lofi discloses limitation 1[i]. Patent Owner does not contend otherwise at this stage of the proceeding.

b. Dependent Claims 5–7

Petitioner contends claims 5–7, each of which depends directly from independent claim 1, are unpatentable as anticipated by Lofi. Pet. 25–27. The Petition provides a detailed assessment of these claims, with references to the Petition’s analysis of claim 1 and disclosures in Lofi. *Id.* At this stage of the proceeding, Patent Owner does not present any separate arguments that are distinct to any of these claims. Rather, Patent Owner generally states the view that the alleged deficiencies in the Petition with respect to claim 1 also are applicable to claims 5–7. *See* Prelim. Resp. 17. As discussed above, we are persuaded that the cited evidence sufficiently supports Petitioner’s contention that independent claim 1 is unpatentable as anticipated by Lofi. For the reasons set forth in the Petition (Pet. 25–27),

we also are persuaded that the current record sufficiently supports Petitioner's challenges to claims 5–7 for purposes of institution.

3. Conclusion

At this stage of the proceeding and based on the record before us, we are persuaded that Petitioner's cited evidence sufficiently supports Petitioner's contention that claims 1 and 5–7 are unpatentable as anticipated by Lofi. Accordingly, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing that claims 1 and 5–7 are unpatentable as anticipated by Lofi.

E. Alleged Obviousness of Claims 1 and 5–7 over the Combination of Lofi and Kitagawa

Petitioner contends claims 1 and 5–7 are unpatentable under 35 U.S.C. § 103 as obvious over the combination of Lofi (Ex. 1002) and Kitagawa (Ex. 1004). Pet. 8–10, 12–13, 27–46. Patent Owner opposes Petitioner's contentions. Prelim. Resp. 26–35. Because we determine that Petitioner demonstrates a reasonable likelihood of success in establishing the unpatentability of claims 1 and 5–7 as anticipated by Lofi such that we institute this proceeding (*see supra* Section III.D), and because we must therefore institute *inter partes* review on all claims and all challenges in the Petition (*see* 37 C.F.R. § 42.108(a)), for purposes of institution, we need not and do not herein address in detail Petitioner's assertions of obviousness of claims 1 and 5–7 over the combination of Lofi and Kitagawa. However, we do provide below certain guidance on this challenge to assist the parties in the upcoming trial.

Patent Owner disputes Petitioner's obviousness contentions here using substantially the same arguments it proffered against anticipation by Lofi,

namely, that “Lofi does not disclose a method of calculating *both* a fitness sub-score *and* an athleticism sub-score (and as a result, a ‘combinatory fitness-athleticism score’) based on a *single* ‘athletic movement’ and a *single* ‘set of instructions.’” Prelim. Resp. 26; *see id.* at 26–33; *supra* Section III.D (discussing alleged anticipation by Lofi). Based on the record before us, we find Patent Owner’s arguments unavailing for the same reasons given above concerning anticipation by Lofi in Section III.D.

Patent Owner also argues against Lofi and Kitagawa individually in its Preliminary Response, but does not meaningfully address their *combined teachings* as argued and evidenced by Petitioner. *See* Prelim. Resp. 26–35. The test for obviousness is not whether the claimed invention is expressly suggested in any one or all of the references, as argued by Patent Owner, but whether the claimed subject matter would have been obvious to those of ordinary skill in the art *in light of the combined teachings of those references*. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981); *In re Burckel*, 592 F.2d 1175, 1179 (CCPA 1979) (“[A] reference must be considered not only for what it expressly teaches, but also for what it fairly suggests.”).

The parties also dispute whether a rational reason exists to combine the teachings of Lofi and Kitagawa, as briefly discussed below.

Petitioner turns to Kitagawa for teaching, *inter alia*, “a variety of exercise courses designed to assess various physical abilities, such as muscle strength in multiple parts of the body, flexibility, balance, and agility”; “each exercise course is designed such that ‘a user utilizes a variety of physical abilities’”; and “‘the extent to which a user utilizes each of his/her various physical abilities is used as an index of the amount of the exercise performed.’” Pet. 33–34 (citing Ex. 1004, 2:28–31, 2:25–29, 2:31–33).

Petitioner also turns to Kitagawa’s teaching of a “pulse meter as a means of a personal monitoring sensor,” which Petitioner argues is used to produce data that is subsequently analyzed to produce combinatory scores for users of Kitagawa’s exercise courses. Pet. 34–35 (citing Ex. 1004, 8:43–61, 2:33–36, Table 3; Ex. 1005 ¶ 123). Petitioner argues it would have been obvious to the skilled artisan, particularly given the state of the art (*see* Pet. 35 (citing Ex. 1005 ¶¶ 25–35, 125–126)), “to look to Kitagawa to incorporate *simultaneous monitoring of multiple physical abilities (e.g., flexibility, balance, agility)* into Lofi’s fitness tests and include Kitagawa’s pulse meter to achieve this goal,” because doing so “would yield the predictable result of generating combinatory scores for every fitness test, *allowing a user to more comprehensively understand various aspects of their state of fitness.*” Pet. 35–36 (citing Ex. 1005 ¶ 128) (emphases added); *see* Pet. 40–41 (“Lofi already contemplates an individual being monitored by one or more sensors during a fitness test.”), 42–46, 27 (“[I]ncorporating Kitagawa’s teachings into that of Lofi is simply the combination of familiar elements according to known methods to yield predictable results.” (citing Ex. 1005 ¶ 122)).

Patent Owner argues that Lofi and Kitagawa are “incompatible and vastly different” for two reasons, and that the skilled artisan “would not have looked to Kitagawa to modify Lofi’s teachings.” Prelim. Resp. 33–34. First, Patent Owner argues that “[i]ntroducing the teachings of Kitagawa into Lofi’s system for evaluating a user’s physical fitness would destroy the benefits that Lofi purports to provide over conventional technologies.” *Id.* at 34. In particular, Patent Owner argues that Lofi discloses “evaluat[ing] the physical fitness of a user in a one-stop, compact, and autonomous

fashion,” whereas, “[b]y sharp contrast, Kitagawa discloses a system for measuring age based on physical strength that requires a tremendous amount of space and infrastructure.” *Id.* According to Patent Owner, “[i]ncorporating the exercises of Kitagawa, as [Petitioner] proposes, would destroy the compact, efficient nature of Lofi’s device, which is pre-designed to allow a user to perform a specific set of exercises.” *Id.*

In proving obviousness here, it is not necessary to show that the skilled artisan somehow would have incorporated Kitagawa’s entire physical obstacle course (arranged inside a long polystyrene foam dome) within Lofi’s relatively small multi-station terminal device. “The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. . . . Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art.” *Keller*, 642 F.2d at 425; *see In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012) (“It is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements.”). Patent Owner does not explain why, in a method combining *the teachings* of Lofi and Kitagawa as proposed by Petitioner (*see* Pet. 27–46), Kitagawa’s teachings of simultaneous monitoring of multiple physical abilities (e.g., flexibility, balance, agility) would not have been implemented by the skilled artisan using Lofi’s system with multiple sensors (including Kitagawa’s pulse rate sensor) to “allow[] a user to more comprehensively understand various aspects of their state of fitness,” as proffered by Petitioner (Pet. 35–36).

Second, according to Patent Owner, Kitagawa describes “a user must check in at a service counter to have biometric measurements taken, and take a scorecard to record their own time as they move through the exercise courses, and then return to the counter to have their age score calculated.” Prelim. Resp. 34 (citing Ex. 1004, 8:30–42). Patent Owner argues that the skilled artisan would not have had any reason “to look to such a clunky and error-prone manual calculation process to fill the gaps in a device which automatically monitors and senses the information necessary to calculate scores indicative of a physical fitness of a user” as in Lofi. *Id.* (citing Ex. 2001 ¶¶ 75–77). But again, Patent Owner appears to argue that the skilled artisan would not have attempted to merge the physical systems of Lofi and Kitagawa, which is not required to show obviousness. *See Mouttet*, 686 F.3d at 1332. Patent Owner does not appear to meaningfully address Petitioner’s argument that the skilled artisan would have combined Kitagawa’s teachings of simultaneous monitoring of multiple physical abilities (e.g., flexibility, balance, agility) and of a pulse meter into Lofi’s fitness tests to “yield the predictable result of generating combinatory scores for every fitness test, allowing a user to more comprehensively understand various aspects of their state of fitness” (Pet. 35–36).

Patent Owner also mentions “hindsight” in the Preliminary Response, but without meaningful analysis. *See* Prelim. Resp. 27 (“[Petitioner] has not shown that [the skilled artisan] *would* have looked to Kitagawa to combine the cited subject matter with the alleged teachings of Lofi. [Petitioner] instead relies on impermissible hindsight to argue that [the skilled artisan] *could* have combined these two references.”). “Any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight

reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper.” *In re McLaughlin*, 443 F.2d 1392, 1313–14 (CCPA 1971). Here, Patent Owner does not direct us to any knowledge *gleaned only from applicant's disclosure* that Petitioner allegedly relies upon to support its obviousness rationale. *See* Prelim. Resp. 26–35. Thus, we preliminarily find Patent Owner's “hindsight” assertion unavailing.

At this stage of the proceeding and based on the record before us, we preliminarily find that Petitioner has established a reasonable likelihood that it would prevail in showing that claims 1 and 5–7 would have been obvious over the combination of Lofi and Kitagawa.

F. Alleged Obviousness of Claims 1, 5–7, and 12 over the Combination of Maeueller and Kitagawa

Petitioner contends claims 1, 5–7, and 12 are unpatentable under 35 U.S.C. § 103 as obvious over the combination of Maeueller (Ex. 1003) and Kitagawa (Ex. 1004). Pet. 10–13, 46–64. Patent Owner opposes Petitioner's contentions. Prelim. Resp. 35–47. Because we determine that Petitioner demonstrates a reasonable likelihood of success in establishing the unpatentability of claims 1 and 5–7 as anticipated by Lofi such that we institute this proceeding (*see supra* Section III.D), and because we must therefore institute *inter partes* review on all claims and all challenges in the Petition (*see* 37 C.F.R. § 42.108(a)), for purposes of institution, we need not and do not herein address in detail Petitioner's assertions of obviousness of claims 1, 5–7, and 12 over the combination of Maeueller and Kitagawa.

However, we do provide below certain guidance on this challenge to assist the parties in the upcoming trial.

Patent Owner disputes Petitioner’s obviousness contentions here using substantially the same arguments it proffered against obviousness over the combination of Lofi and Kitagawa, namely, that “Maeueller does not teach or suggest a method of calculating *both* a fitness sub-score and an athleticism sub-score (and as a result, a ‘combinatory fitness athleticism score’) that is based on ‘activity data,’ which is derived from a *single* ‘athletic movement.’” Prelim. Resp. 35–36; *see id.* at 35–47; *supra* Section III.E (discussing alleged obviousness over Lofi and Kitagawa). Patent Owner submits that “[Petitioner] merely swaps out the Lofi primary reference for another primary reference [i.e., Maeueller] that has the same deficiencies and makes substantially the same flawed arguments as to why Kitagawa allegedly cures those deficiencies.” Prelim. Resp. 36. Based on the record before us, we find Patent Owner’s arguments unavailing for the same reasons given above concerning obviousness over the combination of Lofi and Kitagawa in Section III.E.

At this stage of the proceeding and based on the record before us, we preliminarily find that Petitioner has established a reasonable likelihood that it would prevail in showing that claims 1, 5–7, and 12 would have been obvious over the combination of Maeueller and Kitagawa.

IV. CONCLUSION

Based on the evidence before us, we determine that Petitioner has established a reasonable likelihood that at least one claim of the ’930 patent is unpatentable. Accordingly, we institute trial on all the challenges in the Petition.

At this stage of the proceeding, the Board has not made a final determination on the construction of any claim term or the patentability of any challenged claim.

V. ORDER

Upon consideration of the record before us, it is

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1, 5–7, and 12 of the '930 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the '930 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

IPR2023-00348
Patent 10,188,930 B2

For PETITIONER:

Alex S. Yap
Mehran Arjomand
Forrest McClellan
MORRISON FOERSTER LLP
ayap@mofo.com
marjomand@mofo.com
fmccllellan@mofo.com

For PATENT OWNER:

Christopher J. Renk
Michael J. Harris
Aaron P. Bowling
David C. McMullen
Lindsey C. Staubach
Jessica C. Kaiser
ARNOLD & PORTER KAYE SCHOLER LLP
chris.renk@arnoldporter.com
michael.harris@arnoldporter.com
aaron.bowling@arnoldporter.com
david.mcmullen@arnoldporter.com
lindsey.staubach@arnoldporter.com
jessica.kaiser@arnoldporter.com