

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PELOTON INTERACTIVE, INC.,

Petitioner,

v.

JOHNSON HEALTH TECH CO., LTD.,

Patent Owner.

PTAB Case No. IPR2023-01163

U.S. Patent No. 10,032,227

**PATENT OWNER'S RESPONSE TO PETITION FOR *INTER PARTES*
REVIEW OF U.S. PATENT NO. 10,032,227**

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I. INTRODUCTION

Petitioner challenges claims 1-20 (“Challenged Claims”) of U.S. Patent No. 10,032,227 (“the ’227 Patent,” Ex.1001) on six grounds of obviousness.

Petitioner’s Grounds do not render the Challenged Claims obvious because, among other things, they misconstrue and misapply “exercise use data,” “validated exercise use data,” and “non-validated exercise use data, and fail to identify prior art disclosing a controller configured to generate (or record) validated and non-validated exercise use data *in response* to the sensor detecting or not detecting a user engaged with the operating unit (or endless belt of claim 12) of the exercise apparatus. Furthermore, several of Petitioner’s Grounds fail to identify where the claim elements are found in the references, are based on unsound reasons to combine, and improperly rely on alleged “Applicant Admitted Prior Art.” Based on these shortcomings and more, Petitioner has failed to establish any of the Challenged Claim are unpatentable for obviousness.

II. OVERVIEW OF THE ’227 PATENT TECHNOLOGY

Patent Owner, Johnson Health Tech, Ltd., is the largest specialty fitness retailer in the United States and offers award winning fitness and wellness products under its various brands, including Matrix Fitness, Vision Fitness, and Horizon Fitness.

The '227 patent is generally directed to exercise equipment with a motor-driven operating member, like a treadmill, that has a controller that validates exercise use data for the user and/or third parties by determining whether the exercise use data is valid based on a sensor detecting user engagement with the operating unit, like a treadmill belt.

Before the inventions of the '227 patent, health insurance companies offered customers premium discounts if the customer could demonstrate regular exercise. Ex.1001 at 1:18-20. The underlying rationale for the insurer is that regular exercisers have better health and thus have lower insurance payouts. *Id.* at 1:20-29. Insurance companies, however, need verifiable exercise use data or else premium discounts could be given to customers who faked exercising and thus did not reduce insurance payouts. *Id.* at 1:29-63.

Because of this, insurance companies restricted customers to reporting exercise use data from exercise equipment with a user driven operating member, like a stationary bike or an elliptical trainer. *Id.* at 1:29-53. With user driven equipment, the user powers the operating member, such as the pedals. Thus, exercise cannot be faked on user-driven equipment because users must move the operating member themselves. *Id.* at 1:51-63.

Before the inventions of the '227 patent, insurance companies did not typically accept exercise use data from exercise equipment with a motor-driven

operating member, such as a treadmill or a motorized stair climber, because users could easily falsify exercise use data by “turning on a motorized treadmill, causing the running belt to move, and letting the treadmill run until the treadmill controller had recorded a large distance traveled by the running belt” without the user actually exercising. *Id.* at 1:63-2:19. In other words, prior art exercise equipment with a motor-driven operating member suffered from a technological problem—it did not determine whether the exercise use data generated by the controller and reported to the user and/or the third party was valid or not. *Id.* at 1:51-2:19. The ’227 patent inventions allow users to rely upon and third parties, such as insurers, to credit exercise use data from motor-driven exercise equipment for insurance discounts. *Id.* at 2:23-36.

Claim 1 of the ’227 patent is directed to a motor-driven exercise apparatus. The exercise apparatus includes “a base,” “an operating unit movable relative to the base,” “a motor coupled to the operating unit,” “a sensor operable to detect engagement of a user with the operating unit,” “a controller in communication with the operating unit and the sensor,” and “a communication interface.” *Id.* at claim 1. The “controller” is “configured to generate a non-validated exercise use data in response to movement of the operating unit relative to the base and the sensor does not detect engagement of the user with the operating unit” and is “configured to generate a validated exercise use data in response to movement of the operating

unit relative to the base and the sensor does detect engagement of the user with the operating unit.” *Id.* After the controller determines from information received from the sensor which exercise use data is validated and which exercise use data is non-validated, validated exercise use data is transmitted to the communication interface. *Id.* Other claims in the ’227 patent cover slightly different aspects of the invention with different claim language.

III. CLAIM CONSTRUCTION

The claim terms “exercise use data,” “validated exercise use data,” and “non-validated exercise use data” need to be construed to resolve the issues raised by Petitioner. The standard for claim construction set forth in *Phillips v. AWH Corp.* applies to this proceeding. 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (*en banc*); 37 C.F.R. § 42.100(b).

A. “Exercise use data” means “data that would represent an amount of exercise of the user.”

In order to understand the meaning of “validated exercise use data” and “non-validated exercise use data” as used in the claims of the ’227 patent, one must first understand “exercise use data.” Ex.2004, ¶ 32. “Exercise use data” is “data that would represent an amount of exercise of the user.” *Id.*

The specification and claims define “exercise use data.” *Id.*, ¶ 33. The specification states that “exercise use data would represent an exercise *amount* of the user.” Ex.1001 at 1:37-40 (emphasis added); Ex.2004, ¶ 33. The specification

explains that “exercise use data” includes “an amount of time” or “distance traveled (or equivalent of distance traveled).” Ex.1001 at 5:59-6:4; Ex.2004, ¶ 33. The independent and dependent claims also specify “time” and “distance” as “exercise use data.” Ex.1001 at claims 2, 3, 12, 15-17; Ex.2004, ¶ 33. Time and distance represent amounts of exercise. Ex.2004, ¶ 33.

“Exercise use data” is not inherently validated or non-validated. *Id.*, ¶ 34. Instead, “exercise use data” alone is an apparent amount of exercise without regard to whether a user is actively engaged with the operating unit/endless belt of the exercise apparatus/treadmill. *Id.* In other words, “exercise use data” is data, such as time and distance, without regard to whether a person was engaged with the operating unit or not. *Id.*

Petitioner does not propose a construction for “exercise use data,” but its construction can be derived from the application of its references to the claims. For example, Petitioner argues that Morris discloses “exercise use data including ‘pace, heart rate (when available), incline, distance, program profile’” as well as “footfall force” and “cadence.” Pet. at 32-33. Likewise, Petitioner argues Ray discloses “exercise use data” including “calories, heart rate, distance and time,” as well as a “virtual image of the user.” Pet. at 34-35. Contrary to Petitioner’s implied construction, pace, heart rate, incline, footfall force, cadence, and a virtual image of the user are not “exercise use data” because they do not represent an *amount* of

exercise. *See* Ex.2004, ¶ 35; *see also* Ex.2005 (Rawls Dep. Tr.) at 16:22-17:7 (defining “exercise use data” as “data accumulated while the machine is running”). Those metrics might be broadly characterized as “exercise data,” but they are not “exercise use data” as used in the ’227 patent. Ex.2004, ¶ 35.

B. “Validated exercise use data” is “exercise use data that has been determined to have occurred by the controller in response to the sensor detecting a user engaging the moving operating unit (or endless belt).”

The term “validated exercise use data” is recited in all of the Challenged Claims. “Validated exercise use data” means “exercise use data that has been determined to have occurred by the controller in response to the sensor detecting a user engaging the moving operating unit (or endless belt).” *Id.*, ¶ 36.

The ’227 patent specification and claims provide that “the controller is . . . configured to generate a validated exercise use data in response to movement of the operating unit relative to the base and the sensor does detect engagement of the user with the operating unit.” Ex.1001 at 2:47-51, claim 1; Ex.2004, ¶ 37.¹ The role of the controller in determining from sensor information whether the “exercise use

¹ Claim 1 is representative of the other claims of the ’227 patent as it relates to the construction of “validated exercise use data.” Ex.2004, ¶ 37 n.1. Although Claim 12 differs from claim 1 in that it uses “records” instead of “generates” and “endless belt” instead of “operating unit,” the claims are same for purposes of construing “validated exercise use data.” *Id.*

data” is valid is explained in connection with the flow chart shown in Figure 6.

Ex.2004, ¶ 37.

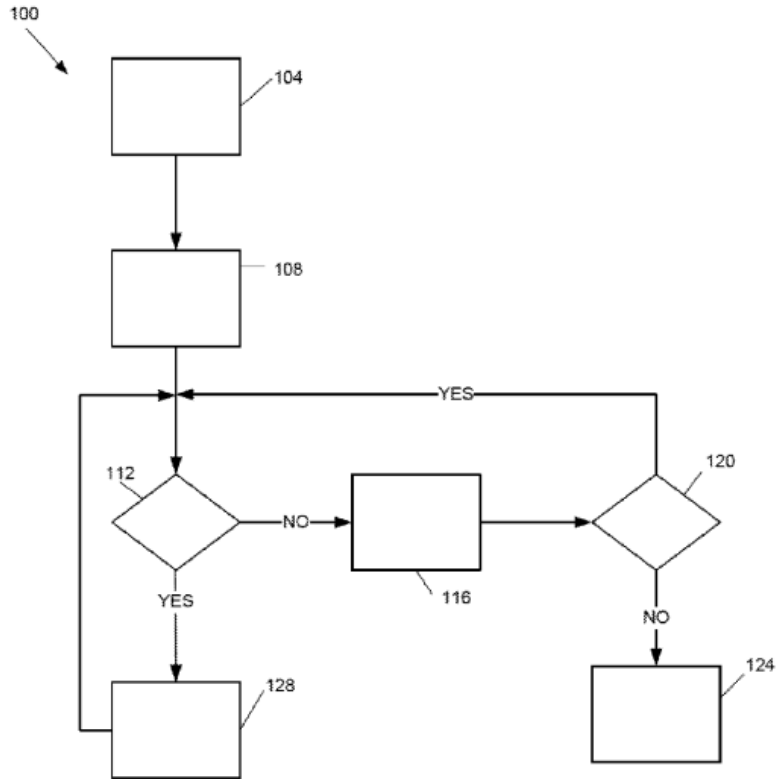


FIG. 6

As shown in Figure 6, “at step 108 the controller 40 receives data from the sensor configured to detect user engagement with the exercise apparatus.” Ex.1001 at 7:5-7; Ex.2004, ¶ 38. Next, at “step 112, the controller 40 analyzes the data from the sensor to detect whether a user is actively engaging the motor-driven operating member 20.” Ex.1001 at 7:12-14; Ex.2004, ¶ 38. “If the analysis [by the controller]

results in a 'no,' there is no user detected . . . [and] the process proceeds to step

116. If the analysis [by the controller] of the results in a 'yes,' there is a user detected . . . [then] the process proceeds to step 128.” Ex.1001 at 7:23-28; Ex.2004, ¶ 38.

At step 116, because the controller determined from information provided by the sensor that no user was actively engaging the operating member/treadmill belt, the controller generates “non-validated exercise use data.” Ex.2004, ¶ 39. At step 128, because the controller determined from information provided by the sensor that a user was engaging the operating member/treadmill belt, the controller generates “validated exercise use data.” Ex.1001 at 7:23-47; Ex.2004, ¶ 39. Thus, as explained by the '227 patent specification, “validated exercise use data” is “exercise use data that has been determined to have occurred by the controller in response to the sensor detecting a user engaging the moving operating unit (or endless belt).” Ex.2004, ¶ 39.

Petitioner asserts that it does not offer a construction for “validated exercise use data,” but in fact argues about the meaning of the term (*see, e.g.*, Pet. at 18-20) and implies a construction in its application of the references to the claims (*see, e.g.*, Pet. at 32-39). Petitioner argues that “the '227 patent claims and describes ‘validated exercise use data’ as exercise data that is generated while the user is actually exercising on the exercise machine—*i.e.*, when the user is engaged with

the operating unit that is moving” Pet. at 19; *see also* Ex.2005 at 17:13-16 (defining “validated exercise use data” as “exercise use data generated while the user is detected as being present”). Similarly, when applying references to the claim element, Petitioner contends Ray discloses “validated exercise use data” when “exercise information such as time and distance, would be generated while the treadmill belt (operating unit) was moving, and the exercising user was being detected.” Pet. 37. In other words, Petitioner argues that, so long as exercise use data is being generated while the sensor detects engagement of a user with the operating unit, that data is “validated exercise use data.”

Petitioner's construction is wrong because it ignores the role of the controller described in the specification and required by the claims. As stated above, the specification explains, and the claims require, that the controller generates validated exercise use data *in response* to the sensor detecting the user engagement with the moving operating unit. Ex.2004, ¶ 41. That is, the controller determines from information received from the sensor whether to generate “validated exercise use data.” *Id.* Under Petitioner's incorrect construction, however, the controller does not validate the exercise use data *in response* to information received from the sensor. Instead, according to Petitioner, exercise use data becomes “validated exercise use data” by virtue of exercise use data being generated *while* a sensor detects a user's engagement with the operating unit.

Petitioner's construction requires no communication between the controller and sensor and no determination by the controller in response to information received from the sensor. *See* Pet. at 19.

Petitioner's interpretation of what constitutes "validated exercise use data" is the problem in the prior art solved by the '227 patent. Ex.2004, ¶ 42. Indeed, before the '227 patent, exercise use data was generated when the treadmill belt was moving, whether a user was actually exercising or not, because the controller did not determine whether that exercise use data was valid in response to the sensor detecting engagement by a user. Ex.1001 1:58-2:7; Ex.2004, ¶ 42. Instead, the prior art simply generated exercise use data whether the sensor detected engagement of the user or not. Ex.2004, ¶ 42.

Petitioner's proposed construction is also inconsistent with the purpose of the invention. The purpose of validating the exercise use data is to prevent a user from falsifying his or her amount of exercise by merely turning on the treadmill and allowing exercise use data, like time and distance, to accumulate and be reported to the treadmill's display or to a third party. Ex.2004, ¶ 43. But according to Petitioner's construction, where validated exercise use data does not require a determination of validity by the controller, the exercise use data generated by the controller is merely exercise use data and provides no indication as to whether it is valid or not.

In further support of Patent Owner's construction, claims 1 and 14 of the '227 patent provide that "the controller transmits the validated exercise use data to the communication interface." *Id.*, ¶ 44. This confirms that the controller must determine whether the exercise use data is valid because, if the controller does not make such a determination and distinguish validated exercise use from non-validated exercise use data, then the controller would not be able to transmit validated exercise use data, but instead could only transmit "exercise use data." *Id.* Thus, Petitioner is incorrect in arguing that "validated exercise use data" is merely the exercise use data that is generated or recorded *while* a person is detected by the sensor.

In sum, the claims and specification make clear that "validated exercise use data" is "exercise use data that has been determined to have occurred by the controller in response to the sensor detecting a user engaging the moving operating unit (or endless belt)." *Id.*, ¶ 45.

C. "Non-validated exercise use data" means "exercise use data that has been determined to have occurred by the controller in response to the sensor not detecting a user engaging the moving operating unit (or endless belt)."

The term "non-validated exercise use data" is recited in independent claim 1 (and its dependent claims) and dependent claim 15. Ex.2004, ¶ 46. "Non-validated exercise use data" means "exercise use data that has been determined to have

occurred by the controller in response to the sensor not detecting a user engaging the moving operating unit (or endless belt).” *Id.*

“Non-validated exercise use data” is very similar to the “validated exercise use data,” but it is generated (or recorded) by the controller when it determines from the sensor information that a user was not engaged with the operating unit (or endless belt). Ex.2004, ¶ 47. Like with “validated exercise use data,” Petitioner argues “‘non-validated exercise use data’ [is] exercise data generated while the user is not on the exercise machine, but the exercise machine is running—i.e., when movement of the belt is detected without an exercising user.” Pet. 19. In other words, Petitioner contends “non-validated exercise use data” is merely exercise use data that is generated while the operating member (or endless belt) is moving, but no user is detected by the sensor to be engaged with the operating unit.

Again, Petitioner is wrong because it ignores the claim language and the specification that require the controller to generate non-validated exercise use data *in response* to movement of the operating unit and no detection of user engagement with the operating unit by the sensor. Ex.2004, ¶ 48. Like with “validated exercise use data,” the key is that the controller determines whether the exercise use data is not valid in response to information received from the sensor. *Id.*, ¶ 48. The process for this determination is explained in the discussion of Figure 6, above. If no determination is made by the controller as to whether the exercise

use data is validated or non-validated, then the exercise use data generated is merely “exercise use data” based solely on the movement of the operating unit. *Id.*

Petitioner's construction is further understood by its application of Morris, Ray and alleged applicant admitted prior art (“AAPA”) to “non-validated exercise use data.” In that context, Petitioner argues that “exercise use data,” “would be generated in the absence of a user . . . while the user was not being detected” and that “would be non-validated exercise use data.” Pet. at 40. Petitioner also argues that the '227 patent specification – AAPA – discloses that “treadmills could generate (non-validated) exercise data automatically and could continue generating such data when left unattended.” Pet. at 72.

Petitioner's application, however, misconstrues non-validated exercise use data because “non-validated exercise use” data is not merely the generation of exercise use data when the user is not present. Ex.2004, ¶ 50. The claim requires the controller to generate non-validated exercise use data *in response* to the sensor not detecting engagement of the user with the moving operating member. *See id.*, ¶ 50; *see also* Ex.2005 at 18:4-8 (defining “non-validated exercise use data” as “exercise use data that's collected or generated when the user . . . is not present”). Thus, “non-validated exercise use data” is “exercise use data that has been determined by the controller to have occurred while the sensor did not detect a user actively engaging the moving operating unit (or endless belt).” Ex.2004, ¶ 50.

IV. PETITIONER'S REFERENCES

A. Ray

U.S. Patent No. 9,785,827 ("Ray") is entitled "Process to Aid in Motivation of Personal Fitness, Health Monitoring and Validation of User." Ray discloses the use of a camera to take videos or images of a user for validating the identity of the user and to create a "thinner representation of the user" for motivation. Ex.1004 at Abstract, 4:66-5:3.

Ray explains that it is possible to control the machine through a computer device like a tablet which allows the user "to move between exercise machines and have data from the user's exercise routine automatically entered into the computer device such as heart rate, duration and calories burned." Ex.1004 at 5:52-58.

Ray states that "as long as exercise data 24 is being produced by the exercise machine 40, the camera can be instructed to capture the user's image every 10 minutes." Ex.1004 at 14:35-38. Notably, Ray does not teach or suggest a controller that generates validated or non-validated exercise use data in response to the sensor and controller detecting user engagement with the operating unit, but instead, relies on the transmission of the user's image and data to a third party to confirm the user's "identity and exercise routine." Ex.1004 at 8:27-29; Ex.2004, ¶ 28.

B. Morris

U.S. Patent Publication No. 2010/0160115 A1 ("Morris") is entitled "User Detection for Exercise Equipment." Morris discloses the use of a sensor to indicate

whether a user “has mounted the treadmill belt.” Ex.1006 at Abstract. Morris was directed at determining when a user wants to stop exercising for a short time “but leaves the belt running at speed.” Ex.1006 at Summary, 0006.

Morris discloses that when a user steps off a treadmill, “it is advantageous to alert the user to reengage or halt the belt movement.” Ex.1006 at Summary, 0006. When a user is not detected on the machine, Morris discloses using one or more sensors to detect when the user departs the treadmill and pausing or stopping the treadmill after the user has been off the treadmill “for a certain period of time.” Ex.1006 at Summary, 0008. Morris also discloses using sensors to determine footfall, cadence, impact variance and the like. Ex.1006 at Summary, 0009. Morris does not teach or suggest a controller that generates validated or non-validated exercise use data in response to the sensor and controller detecting user engagement with the operating unit. Ex.2004, ¶ 30.

V. LEVEL OF ORDINARY SKILL

As of the December 2014 priority date, a person of ordinary skill in the art (POSITA) is a person having: (i) a bachelor's degree in an exercise related field or mechanical or electrical engineering and (ii) three to five years of experience in analyzing and/or designing exercise equipment (such as treadmills, bicycles, steppers, ellipticals) or in a similar field. Ex.2004, ¶ 51. A POSITA could substitute additional education for experience (e.g., substituting an advanced

degree relating to the design of exercise equipment or biomechanics, for industry experience in a related field and vice versa). *Id.*

VI. THE PETITION FAILS TO SHOW THAT THE CHALLENGED CLAIMS ARE OBVIOUS

Petitioner fails to show the Challenged Claims are unpatentable because, among other things, it neglects to construe “exercise use data,” “non-validated exercise use data,” and “validated exercise use data,” and misapplies its references to those claim elements. When the correct construction of those terms is applied, none of Petitioner’s references alone or in combination disclose or make obvious the inventions of the Challenged Claims because, among other things, the combinations lack a controller that determines whether exercise use data is valid or non-valid in response to the sensor’s detection of user engagement with the moving operating member.

A. Ground 1: Morris and Ray do not render Claims 1-9, 12, 14-20 obvious.

1. Claim 1

- a. Petitioner fails to show that the Morris and Ray combination discloses elements 1[h] – “validated exercise use data” and 1[g] – “non-validated exercise use data.”**

Petitioner has failed to show that Morris and Ray, alone or in combination, teach or suggest elements 1[g] and 1[h]² because both lack a “controller [] configured to generate a non-validated exercise use data in response to movement of the operating unit relative to the base and the sensor does not detect engagement of the user with the operating unit” and a “controller . . . configured to generate a validated exercise use data in response to movement of the operating unit relative to the base and the sensor does detect engagement of the user with the operating unit.” Ex.2004, ¶ 54.

Morris does not teach or suggest validated exercise used data.

With respect to Morris, Petitioner argues that Morris has a display “showing exercise use data including ‘information such as pace, heart rate (when available), incline, *distance*, program profile, and/or the like.’” Pet. at 32. Petitioner further claims that Morris generated “exercise use data such as *footfall force*” and “*a*

² Patent Owner is using the same claim element numbering convention as Petitioner. Pet. at 94-99.

user's cadence." Pet. at 33. Of those metrics, only distance is "exercise use data" because the others do not represent an **amount** of exercise. Ex.2004, ¶ 55.

Petitioner attempts to tie "exercise use data," like time and distance, to pace and cadence by arguing that "pace and the user's cadence were tied to time spent, or distance traveled, while the user was exercising on a moving treadmill, and were therefore validated exercise use data." Pet. at 34. That pace and cadence have time and/or distance as an input does not make them "exercise use data." Ex.2004, ¶ 56.

Pace is a unit of time per a unit of distance, and cadence is steps per a unit of time. *Id.*, ¶ 57. For example, if the treadmill shows a user's pace to be 8:00 minutes per mile or cadence to be 45 steps per minute, that information does not disclose the user's total time or distance. *Id.* Indeed, a user can have an 8:00 minute per mile pace or a 45 steps per minute cadence over **any** amount of time or distance. *Id.* Thus, pace and cadence do not represent an **amount** of exercise. *Id.*, ¶ 57; *see also* Ex.2005 at 59:17-60:11 (admitting that pace, cadence, and gait do not represent an amount of exercise the user has performed).

Regardless, pace, cadence, and footfall force in Morris are not validated by a controller in response to the sensor detecting a user engaged with the operating unit. Ex.2004, ¶ 58. Petitioner puts forth no evidence or argument to the contrary. Notably, there is no reason or need to have a controller to validate cadence and footfall force based on the sensor detecting a user. *Id.* Unlike "exercise use data,"

like time and distance, a user cannot fake cadence and footfall force by merely turning on the treadmill belt. *Id.* Cadence and footfall force data is generated only when a user's foot contacts the treadmill belt. *Id.* Thus, cadence and footfall force are inherently valid, similar to "exercise use data" generated on equipment with a user-driven operating unit, such as the stationary bike and elliptical trainer discussed in the background of the '227 patent. Ex.1001 1:51-58; Ex.2004, ¶ 58.

With respect to Morris's disclosure of distance and time, Petitioner does not argue that Morris's controller validates distance or time *in response* to the sensor detecting engagement by the user with the moving operating unit. Rather, Petitioner incorrectly argues the claim element is satisfied because "exercise use data obtained from the sensor readings were generated *while* the belt (operating unit) was moving." Pet. at 34 (emphasis added). Petitioner's argument disregards the controller and its role in determining whether exercise use data is valid *in response* to the sensor detecting a user engaged with the moving operating unit. Ex.2004, ¶ 59. A controller's generation of exercise use data *while* a sensor detects a user engaged with the operating unit (such as for detecting footfall force or for stopping the treadmill belt for safety) but not "in response" to the sensor detecting engagement of the user is the problem in the prior art solved by the '227 patent. *Id.*

Ray does not teach or suggest validated exercise use data.

Ray also lacks claim element 1[h]. Ex.2004, ¶ 60. Petitioner concludes with no citation to supporting evidence that “Ray made explicit that validated exercise use data would only be produced while the user was being detected exercising.” Pet. at 34. To the extent Petitioner means that Ray teaches or suggests “validated exercise use data,” Petitioner is wrong.

Petitioner argues that Ray's “exercise data” is “calories, heart rate, distance and time” as well as “a virtual image of the user.” Pet. at 34-35. As an initial matter, “exercise data” is not in the claims. To the extent Petitioner is trying to equate “exercise data” with “exercise use data,” heart rate is not “exercise use data” because it does not represent an **amount** of exercise. Ex.2004, ¶ 61. Likewise, Ray's “virtual image of the user” is not “exercise use data” because it also does not represent an **amount** of exercise. *Id.*; *see also* Ex.2005 at 22:12-24:14 (Ray's thinning image is “not a precise measurement”; “just an artist representation”; “I don't know that it really depicts much of anything”; “the details of the thinning image are somewhat vague”). The virtual image not being “exercise use data” is significant because Petitioner relies heavily on the virtual image being the “validated exercise use data” of the Ray and Morris combination (and Ray alone for Grounds 3-6). Pet. at 38-39.

Petitioner urges that Ray's virtual image is somehow "exercise use data."

This argument should be rejected. First, Petitioner incorrectly argues that "the '227 patent explained that exercise use data can be 'a multimedia content, such as an image and/or sound.'" Pet. at 35 n.2. The '227 patent does not state this. Instead, the portion of the '227 patent cited by Petitioner states that "[t]he validated exercise use data is substantially packaged in a computer file that can be accessed or processed *to show the validated exercise use data as a multimedia content, such as the media image and/or the sound.*" Ex.1001 6:25-29 (emphasis added). For example, a user's distance could be graphically displayed as a bar chart for every mile ran or time ran could be shown in a colorful, flashing font with celebratory music. Ex.2004, ¶ 63. Thus, the '227 patent teaches that "validated exercise use data" *can be shown* as multimedia content, not that any multimedia content is "exercise use data." *Id.*

Second, Petitioner claims that Ray's virtual image is "exercise use data" because the image morphs to become "thinner, healthier and more aesthetically pleasing . . . based on the intensity, speed and/or duration of the user's workout." Pet. at 35. But morphing the virtual image based on underlying "exercise use data" does not make the virtual image "exercise use data." Ex.2004, ¶ 64. As Petitioner's and Patent Owner's experts agree, one cannot determine time, distance, or any other measure of an *amount* of exercise from viewing the virtual image alone

regardless of whether it morphs based on “exercise use data” inputs. *Id.*; *see also* Ex.2005 at 22:6-7 (“I don’t know that the image is going to give me a precise piece of information.”). Thus, Ray’s virtual image is not “exercise use data.”

Notably, Petitioner muddles Ray’s validation feature with Ray’s virtual image. Ex.2004, ¶ 65. To be clear, Ray’s “validation feature” is not the same as the virtual image that Petitioner contends is “exercise use data.” *Id.* Ray’s validation feature transmits videos or images of the user taken from a camera to a third-party person for validation/confirmation of the user’s identity and exercise data. *Id.* Ray explains that “[t]hrough a unique interface of the camera on the computer device and exercise machine, the user’s identification and method of exercise is confirmed during the exercise routine” by “someone in the medical industry or wellness manager.” Ex.1004 at 6:43-47, 63-66; Ex.2004, ¶ 65. Nothing in Ray suggests the virtual image is validated. *See* Ex.2004, ¶ 65; *see also* Ex.2005 33:8-22.

Nonetheless, Petitioner concludes that “generating and reporting the user’s thinning image while the exercising user was being detected and stopping the reporting of the user’s virtual image in the absence of the user . . . suffices to render obvious the generation of ‘validated exercise use data,’ as required in limitation 1[h].” Pet. at 38-39. Again, this conclusion is incorrect because the virtual image is not “exercise use data.” Ex.2004, ¶ 66. It is a motivational image that does not represent an amount of exercise. *See id.*; *see also* Ex.2005 at 24:3-5

("It doesn't tell you precisely how much you've done, but it tells you you've done more, you keep getting thinner.").

As for the "exercise use data" disclosed in Ray, such as time, distance and calories, Ray does not teach or suggest, and Petitioner does not identify, a "controller . . . configured to generate a validated exercise use data [i.e., validated time, distance or calories] *in response* to movement of the operating unit relative to the base and the sensor does detect engagement of the user with the operating unit." Ex.1001 at claim 1; Ex.2004, ¶ 67. While Ray mentions that the camera stops recording images when the user is not detected, it says nothing about the operation of the controller changing or making a determination of the validity of time, distance, or calories in response to a sensor not detecting a user engaged with the moving operating unit. Ex.2004, ¶ 67. Indeed, Ray teaches that as long as the treadmill belt is moving and regardless of whether the user is on the treadmill, exercise data accumulates with no determination by the controller whether or what portion of the exercise data is valid or not. *Id.*; Ex.2005 32:4-7, 38:19-39:2.

Petitioner's misinterpretation of "validated exercise use data" is highlighted in discussion of distance and time in claims 3 and 4. Regarding "distance" in claim 3, Petitioner argues it "would be validated exercise use data because such information would be captured *during the time* the user was being detected" and because it "would also be exercise data that was collected *during the user's*

exercise and reported to a third party.” Pet. at 43 (emphasis added). Again, Petitioner has ignored the claimed role of the controller. Ex.2004, ¶ 68. Merely having a sensor detect a user exercising while the controller generates distance, without the controller determining the validity of the data in response to the sensor the detecting the user, is not “validated exercise use data.” *Id.*

As far as “time” in claim 4, Petitioner makes the same incorrect argument as with distance. Contrary to Petitioner’s argument, time is not “validated exercise use data” simply because “time spent exercising was part of the exercise data displayed on the screen *while* the user was exercising.” Pet. at 44 (emphasis added); *see also* Ex.2004, ¶ 69. Validated exercise use data requires a determination by the controller *in response* to information obtained from the sensor. Ex.2004, ¶ 69. Petitioner fails to even argue that Ray’s or Morris’s controller validates exercise used data, like time or distance.

Supported only by the “say so” of its expert and with no citation to Morris or Ray, Petitioner concludes distance and time, among other metrics, “would cease to be reported when the user was no longer exercising.” Pet. at 39. But ceasing to report time and distance when the user is not exercising is not claimed in the ’227 patent. Ex.2004, ¶ 70. Thus, it is not relevant to element 1[h]. *Id.*

Petitioner continues with arguing that “pace, footfall force and cadence could only be generated based on detection of the user’s footsteps, which would be

no longer generated in the absence of the user, and the reporting of other information such as time and distance would have been unnecessary.”³ Pet. at 39. Pace, footfall force and cadence, however, are not “exercise use data,” as explained above. Ex.2004, ¶ 71. Furthermore, Petitioner’s assertion that “reporting . . . time and distance would have been unnecessary” in the user absence makes no sense and is beside the point. *Id.* The point of having a controller generate validated exercise use data is that with prior art treadmills users would fake exercise by running the treadmill in the user’s absence. *Id.* Thus, Petitioner’s argument about reporting time and distance being unnecessary in no way supports element 1[h] being obvious.

Neither Morris nor Ray teaches or suggests non-validated exercise use data.

Petitioner fails to establish that Morris or Ray, alone or combination, teach or suggest element 1[g]. Petitioner argues that Morris discloses “non-validated exercise use data” during the slowdown period when the treadmill generates time for the 6 to 8 seconds between when the user’s absence is detected and when the treadmill belt stops for safety purposes. Pet. at 40. Petitioner’s argument is misplaced because it ignores that the claim requires the controller generate “non-

³ The detection of footsteps is not relevant to pace because pace is a unit of time divided by a unit of distance. Ex.2004, ¶ 71 n.3. Time and distance data can be generated on a treadmill without a person engaged with the belt. In any event, as explained above, pace is not “exercise use data.” *Id.*

validated exercise use data” *in response* to the sensor not detecting the presence of a user on the moving operating member. Ex.2004, ¶ 72. In other words, to satisfy “non-validated exercise use data” (element 1[g]), the “exercise use data” must be “determined by the controller to have occurred while the sensor did not detect a user actively engaging the moving operating unit (or endless belt).” *Id.*

Nothing in Petitioner's argument or evidence demonstrates that the controller of Morris makes any determination or does any analysis about the validity of the time data generated during the slowdown period. *Id.*, ¶ 73. Instead, according to Morris, time data would continue to be generated and accumulate without the user being detected by the sensor – just as it did when the user was detected by the sensor. *Id.* Thus, in Morris, there is no indication that time generated during the slowdown period is “non-validated exercise use data” and thus Petitioner's argument fails.

b. Petitioner fails to show that the Morris and Ray combination discloses element 1[i].

Petitioner argues that the Morris-Ray combination discloses “wherein the controller transmits validated exercise use data to the communication interface” because “the virtual image was sent out as a live feed to third parties such as insurance programs, trainers, and physicians.” Pet. at 41. Even if Ray's virtual image were “validated exercise use data,” which it is not, Petitioner fails to argue or submit evidence that *Morris's controller* would transmit Ray's virtual image to

third parties. This is significant because Petitioner relies exclusively of Morris's controller being the claimed controller, but Morris does not teach or suggest a controller that transmits data, such as the user's image, to a third party. Pet. at 27-28; Ex.2004, ¶ 74. For this reason, Petitioner fails to show that the Morris-Ray combination teaches element 1[i].

Furthermore, the evidence cited by Petitioner does not support that the *virtual image* is transmitted to third parties. Pet. at 27-28. Instead of transmitting the virtual image, Petitioner's cited evidence merely discloses the transmission of the user's actual image to a third party to validate the user's identity. *See, e.g.*, Ex.1004 at 6:49-51. Of course, transmission of a morphed image of the user would not be helpful for a third party validating the user's identity because it would not look like the user. Ex.2004, ¶ 75. Thus, Petitioner has failed to show that the Morris-Ray combination discloses element 1[i] or that claim 1 of the '227 patent is obvious.

2. Dependent Claims 2-9

Petitioner has failed to establish obviousness of dependent claims 2-9 for the same reasons it failed to establish obviousness of claim 1. *See* Section VI.A.1.a. and b.; Ex.2004, ¶ 76.; *In re Fritch*, 972 F.2d 1260, 1267 (Fed. Cir. 1992) ("Since dependent claims are nonobvious if the independent claims from which they depend are nonobvious, the Board's affirmance of the rejection of dependent

claims 2-7, 9-12, 14-23, and 30 is also reversed.”); *In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988) (“A claim that depends from a non-obvious independent claim is non-obvious because it contains all the limitations of the independent claim, plus a further limitation.”); *Hartness Int'l. Inc. v. Simplimatic Eng'g Co.*, 819 F.2d 1100, 1108 (Fed. Cir. 1987) (“the district court was correct in holding that independent claim 1 was nonobvious. *A fortiori*, dependent claim 3 was nonobvious (and novel) because it contained all the limitations of claim 1 plus a further limitation. The district court's holding that claim 3 was invalid is reversed.”).

3. Claim 12

Petitioner argues that claim 12 is obvious for the same reasons as it asserts for claim 1. Petitioner has failed to prove obviousness of claim 12 for the same reasons it fails to prove obviousness of claims 1 and 4. Specifically, Petitioner fails to establish that Morris and/or Ray disclose elements 12[e] and 12[f] for the reasons they do not disclose element 1[h] and claim 4. *See* Section VI.A.1.a. and 2; Ex.2004, ¶ 77.

4. Claim 14

Petitioner argues that claim 14 is obvious for the same reasons as it asserts for claims 1 and 4. Petitioner has failed to prove obviousness of claim 14 for the same reasons it fails to prove obviousness of claim 1. Specifically, Petitioner fails

to establish that Morris and/or Ray disclose element 14[g] for the reasons they do not disclose element 1[h] and 1[i]. *See* Sections VI.A.1.a. and b; Ex.2004, ¶ 78.

5. Dependent Claims 15-20

Petitioner has failed to establish obviousness of dependent claims 15 through 20 for the same reasons it failed to establish obviousness of claims 1 and 14. Specifically, Petitioner fails to establish that Morris and/or Ray disclose element 14[g] for the reasons they do not disclose element 1[h] and 1[i]. *See* Sections VI.A.1.a. and b. and 4; Ex.2004, ¶ 79.

B. Ground 2: Morris, Ray, and Cox do not render Claims 10-11, 13, and 20 obvious.

1. Petitioner fails to specify where each element of Claims 10-11, 13, and 20 is found in Morris, Ray, and Cox.

Petitioner bears the burden to “specify where each element of the claim is found in the prior art patents or printed publications relied upon,” and “identif[y] specific portions of the evidence that support the challenge.” *Sandbox Med. v. Neotech Prods., Inc.*, IPR2019-00246, Paper 22, at *33-34 (P.T.A.B. May 6, 2020) (quoting 37 C.F.R. § 42.104(b)(4), (5)); *Microsoft Corp. v. FG SRC, LLC*, 860 F. App'x 708, 712-13 (Fed. Cir. 2021) (quoting 37 C.F.R. § 42.104) (“[T]he petitioner is the ‘master of its complaint,’ and as such, ‘[i]t is of the utmost importance that petitioners adhere to the requirement that the initial petition identify “with particularity” the evidence that supports the grounds for the

challenge to each claim.’’). ‘‘It is not the Board’s job to cobble together assertions from different sections of a petition or citations of various exhibits in order to infer every possible permutation of a petitioner’s arguments. Arguments in a petition must be made with particularity, not opacity.’’ *Microsoft*, 860 F. App’x at 713.

Contrary to established law, Petitioner jumps directly into arguing that the claim elements added in dependent claims 10, 11, 13, and 20 are found in Cox but fails to specify where the other elements of the claims are found. Ex.2004, ¶ 81. Indeed, in applying its references to the elements of claims 10, 11, 13, and 20, Petitioner does not even refer to or incorporate an element-by-element analysis from other Grounds. *Id.* Thus, Ground 2 fails to specify where the claim elements are found in the references and should be rejected on that basis alone. *Id.*; *Sandbox*, IPR2019-00246, Paper 22, at 29 (‘‘We decline Petitioner’s implicit invitation to incorporate Petitioner’s citations and analysis from Grounds 1-3 into this Ground. Accordingly, we determine that Petitioner has failed to show unpatentability of claims 1-10 under Ground 4.’’).

2. Petitioner fails to show a reason for a POSITA to combine Cox with Ray and Morris.

Petitioner adds Cox’s current sensor to the Morris-Ray combination because neither Morris nor Ray disclose a current sensor. Petitioner argues that a POSITA would have added Cox’s current sensor to the Ray and Morris combination because (1) it would ‘‘provide an improved motivational image to the user of the

exercise apparatus disclosed in Ray and Morris;" (2) it "would have provided redundancy and accuracy"; and (3) "the presence of the user could be detected collaboratively using the three techniques of Ray, Morris and Cox." Pet. at 57-59. A POSITA would not have been motivated to combine Cox with Ray and Morris for any of these reasons. Ex.2004, ¶ 82.

First, Petitioner identifies nothing in Ray or any other reference suggesting that Ray needed improvements to its motivational image. Nor does Petition explain how having a current sensor added to the Ray's camera and Morris's reluctance sensor would improve the motivational image. To the extent that having additional sensors would improve Ray's motivational virtual image, Morris already provided an additional sensor to the combined apparatus. Petitioner fails to identify any reason why a POSITA would add Cox's current sensor and the associated costs to improve a feature that needs no improving. *Id.*, ¶ 83; *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1369 (Fed. Cir. 2012) ("both of these references independently accomplish similar functions Because each device independently operates effectively, a person having ordinary skill in the art . . . would have no reason to combine the features of both devices into a single device.").

Second, Petitioner identifies nothing in Morris or any other reference suggesting that Morris needed another sensor to improve its ability to analyze gait.

Ex.2004, ¶ 83. Petitioner's arguments that Cox also analyzes gait and that Morris teaches that detection techniques can be used to analyze gait are not reasons to add another, redundant sensor and its associated costs. *Id.*

Third, Petitioner fails to provide any plausible reason why a POSITA would be motivated to implement "three techniques" for detecting the presence of a user. *Id.*, ¶ 84. According to Petitioner, the proposed Ray and Morris combination would already two independent ways to detect the presence of a user—a camera (Ray) and reluctance sensor (Morris). Petitioner fails to explain why a POSITA would add a third costly sensor for a third level of redundancy that no reference suggests is needed or even helpful. *Id.*

Thus, Petitioner fails to establish any sound rationale for a POSITA to combine Cox with Morris and Ray Petitioner. *Id.*, ¶ 85. On that basis alone, Ground 2 fails to establish obviousness of claims 10-11, 13, and 20.

3. Dependent Claims 10-11, 13, and 20

Claims 10-11 depend directly or indirectly from Claim 1 and are therefore nonobvious for the same reasons Claim 1 is nonobvious as stated in Ground 1. *See* Sections VI.A.1.a. and b; Ex.2004, ¶ 86. Claim 13 depends on Claim 12 and is therefore nonobvious for the same reasons Claim 12 is nonobvious as stated in Ground 1. *See* Section VI.A.3; Ex.2004, ¶ 86. Claim 20 depends on Claim 14 and is therefore nonobvious for the same reasons Claim 14 is nonobvious as stated in

Ground 1. *See* Section VI.A.4.; Ex.2004, ¶ 86; *In re Fritch*, 972 F.2d at 1266

(“[D]ependent claims are nonobvious if the independent claims from which they depend are nonobvious.”).

C. Ground 3: Ray and applicant admitted prior art (AAPA) do not render Claims 1-6 and 14-20 obvious.

1. Petitioner impermissibly relies on AAPA.

Petitioner asserts that claims 1-6 and 14-20 are obvious based on the combination of Ray and AAPA. This reliance on AAPA, however, is not permitted because AAPA may not be used as the basis or a reference for a Ground. *Med-El Elektromedizinische Gerate Gest. M.B.H. v. Advanced Bionics AG*, IPR2020-01016, Paper 42 (holding the use of AAPA was improper because “Petitioner’s reliance on AAPA as to several structural and functional limitations for a cochlear implant system, and reliance on Peterson for only an additional electrical system, supports our determination that AAPA is the ‘basis’ of this ground”); USPTO Memorandum, Updated Guidance on the Treatment of Statements of the Applicant in the Challenged Patent in Inter Partes Reviews under § 311 (June 9, 2022), *available at* <https://www.uspto.gov/sites/default/files/documents/2022060912updatedAAPAmemo.pdf>.

Here, Petitioner improperly cites AAPA as a basis for Ground 3 and to satisfy many claim elements including 1[pre], 1[a], 1[c], and 1[g]. Pet. at 67, 72;

Ex.2004, ¶ 88; Ex.2005 at 100:6-15 (AAPA used by Mr. Rawls as “part of the basis” for Grounds 3, 4, and 6). Therefore, Petitioner admits that Ray is missing claim elements and that those claim elements are supplied by the AAPA. For this reason alone, Ground 3 fails to render the claims 1-6 and 14-20 obvious. Ex.2004, ¶ 88.

2. Claim 1

- a. **Petitioner fails to show that the Ray and AAPA combination discloses elements 1[h] – “validated exercise use data” and 1[g] – “non-validated exercise use data.”**

Ray does not teach or suggest validated exercise use data.

Petitioner relies on Ray and its argument in Ground 1 for disclosing element 1[h]. For the reasons stated in Ground 1, Ray does not disclose element 1[h]. *See* Section VI.A.1.a; Ex.2004, ¶ 89.

AAPA does not teach or suggest validated exercise use data.

Petitioner relies on AAPA for disclosing element 1[g]. Specifically, Petitioner cites to the portion of the '227 patent discussing the problem in the prior art where a person could turn on the treadmill belt and allow the controller to record large distances without the person exercising on the treadmill. Pet. at 72. Even if this portion of the '227 patent relied upon were AAPA, it does not disclose element 1[g]. Ex.2004, ¶ 90. Instead, it defines the problem in the prior art that the '227 patent solved. *Id.*

As stated before, a controller's generation of "exercise use data" *while* a user is not engaged with the operating member is *not* "non-validated exercise use data." *Id.*, ¶ 91. It is merely "exercise use data" that has not been validated or non-validated by the controller. *Id.* In other words, the alleged AAPA relied upon by Petitioner does not disclose a "controller . . . configured to generate a non-validated exercise use data *in response to* movement of the operating unit relative to the base and the sensor does not detect engagement of the user with the operating unit." Ex.1001 at claim 1 (emphasis added); Ex.2004, ¶ 91.

Petitioner also cites a passage from the prosecution history of the related '375 patent stating that the prior art teaches "distance, time and speed may be displayed on the display unit . . . while the user is on the belt exercising." Pet. at 66; Ex.1009 at 39. Petitioner fails to explain the significance of this passage to Ground 3. Pet. at 66; Ex.2004, ¶ 92. Patent Owner does not dispute the statement or its disclosure in the prior art, but that statement in no way admits that the prior art disclosed the generation of "validated exercise use data" or "non-validated exercise use data" or elements 1[g] and 1[h]. Ex.2004, ¶ 92.

Petitioner argues that "continuing to generate or not continuing to generate elapsed time in the absence of a user were the only two known alternatives, . . . thus selecting one or the other would have been an obvious endeavor." Pet. at 73. Petitioner further argues that "a POSITA would have found it advantageous to

continue generating, and showing on the screen, information such as elapsed time because it would notify the user that the treadmill is still running.” Pet. at 73.

These arguments, however, are premised on an incorrect construction of “non-validated exercise use data” and they fail to apply the claim language. Ex.2004, ¶ 93. As stated before, a controller merely generating exercise use data *while* the operating unit is moving but the user is not engaged is not the generation of “non-validated exercise use data.” *Id.* Instead, the controller must generate the non-validated exercise use data *in response to the sensor not detecting engagement by the user. Id.* Thus, AAPA does not satisfy element 1[g].

b. Petitioner fails show the Ray and AAPA combination discloses element 1[i] – “wherein the controller transmits the validated exercise use data to the communication interface.”

Petitioner relies entirely on its argument in Ground 1 for the disclosure of element 1[i] in Ground 3. Element 1[i] is not disclosed in the Ray-AAPA combination for the same reasons provided for element 1[i] in Ground 1. *See* Section VI.A.1.b; Ex.2004, ¶ 94. Moreover, in Ground 1 for elements 1[e] and 1[i], Petitioner relied on Morris’s controller. Morris is not part of Ground 3. Thus, Petitioner’s argument regarding 1[i] does not apply to Ground 3.

3. Dependent Claims 2-6

Claims 2-6 depend directly or indirectly from claim 1. Petitioner has failed to establish obviousness of dependent claims 2-6 for the same reasons it failed to

establish obviousness of claim 1. *See* Sections VI.A.1.a. and b.; Ex.2004, ¶ 95; *In re Fritch*, 972 F.2d 1260, 1267 (Fed. Cir. 1992).

4. Claim 14

Petitioner argues that claim 14 is obvious for the same reasons as it asserts for claim 1. Petitioner has failed to prove obviousness of claim 14 for the same reasons it fails to prove obviousness of claim 1. *See* Sections VI.A.1.a. and b.; Ex.2004, ¶ 96. Specifically, Petitioner argues that Ray discloses element 14[g] for the same reasons it argued for elements 1[h] and 1[i]. Pet. 78. Petitioner fails to establish that Ray discloses element 14[g] for the reasons provided for elements 1[h] and 1[i] of Grounds 1 and 3. *See* Sections VI.A.1.a. and b.; Ex.2004, ¶ 96.

5. Dependent Claims 15-20

Claims 15-20 depend directly or indirectly from claim 14. Petitioner has failed to establish obviousness of dependent claims 15-20 for the same reasons it failed to establish obviousness of claim 14. *See* Section VI.A.4.; Ex.2004, ¶ 97; *In re Fritch*, 972 F.2d 1260, 1267 (Fed. Cir. 1992).

D. Ground 4: Ray, AAPA, and Cox do not render Claims 10-11 and 20 obvious.

1. Petitioner fails to specify where each element of Claims 10-11, 20 is found in Ray, AAPA, and Cox.

As with Ground 2, Petitioner fails to “specify where each element of the claim is found in the prior art patents or printed publications relied upon,” and “identif[y] specific portions of the evidence that support the challenge.” Ex.2004,

¶ 98; *Sandbox*, IPR2019-00246, Paper 22, at *33-34 (quoting 37 C.F.R. § 42.104(b)(4), (5)); *Microsoft*, 860 F. App'x at 712-13. Specifically, Petitioner jumps directly into arguing that the claim elements added in dependent claims 10-11 and 20 are found in Cox but fails to specify where the other elements of those claims are found. Ex.2004, ¶ 98. Petitioner does not even refer to or incorporate an element-by-element analysis from other Grounds. Thus, Ground 4 fails to specify where the claim elements are found in the references and should be rejected on that basis alone. *Id.*; *Sandbox*, IPR2019-00246, Paper 22, at 29.

2. Petitioner impermissibly relies on AAPA.

Petitioner has impermissibly relied upon AAPA for the same reasons as stated in Ground 3. *See* Section VI.C.1. Therefore, Ground 4 should be denied on that basis alone. Ex.2004, ¶ 99.

3. Petitioner fails to show a reason for a POSITA to combine Cox with Ray and AAPA.

Petitioner adds Cox's current sensor to the Ray-AAPA combination. Petitioner argues that a POSITA would have added Cox's current sensor to the Ray and Morris combination because (1) it would "provide an improved motivational image to the user of the exercise apparatus disclosed in Ray;" and (2) it would "provide redundancy and accuracy of user detection." Pet. at 79. A POSITA would not have been motivated to combine Cox with Ray and AAPA for these reasons. *See* Ex.2004, ¶ 100.

First, Petitioner identifies nothing in Ray or any other reference suggesting that Ray needed improvements to its motivational virtual image. *Id.*, ¶ 101. Nor does Petitioner explain how having a current sensor added to the Ray's camera sensor would improve the motivational virtual image. *Id.* Petitioner fails to identify any reason why a POSITA would add Cox's current sensor and the associated costs to improve a feature that needs no improving. *Id.*; *Kinetic Concepts*, 688 F.3d at 1369 ("both of these references independently accomplish similar functions Because each device independently operates effectively, a person having ordinary skill in the art . . . would have no reason to combine the features of both devices into a single device.").

Second, Petitioner fails to provide any plausible reason why a POSITA would be motivated to implement another sensor for redundancy for detecting the presence of a user or for additional accuracy. Ex.2004, ¶ 102. According to Petitioner, Ray already included a person detection sensor that accurately captured videos or images for a third-party to verify. Petitioner fails to explain why a POSITA would add another sensor for unneeded redundancy and accuracy of its person detection feature. *Id.* Thus, Petitioner has failed to articulate a legitimate reason to combine Cox with Ray and AAPA. *Id.*

4. Dependent Claims 10-11 and 20

Petitioner's only argument for obviousness of claims 10-11 in this Ground 4 incorporates its rationale for these claims in Ground 1. Petitioner, however, argued in Ground 1 that claims 10 and 11 were obvious in view of *Morris*, Ray, and Cox, whereas it argues in Ground 4 the claims 10 and 11 are obvious based on Ray, *AAPA*, and Cox. Pet. at 60-65. Thus, the same rationale cannot apply because for claims 10 and 11 Petitioner relies upon *Morris* to satisfy many of the elements of independent claim 1, including a base, an operating unit, a controller, and a sensor, among other things. Pet. at 21-40; Ex.2004, ¶ 103. Notably, Petitioner's arguments for obviousness of claim 10 in Ground 1 involve combining Cox with *Morris*. Ex.2004, ¶ 103. This is inapplicable to Ground 4 because *Morris* is not part of Ground 4. Thus, Petitioner's incorporation of its obviousness arguments for claims 10 and 11 from Ground 1 is fatally flawed and fails to support Ground 4. *Id.*

Also, claims 10, 11 and 20 are not obvious for the same reason claims 1 and 14 is not obvious provided in Ground 3. *See* Sections VI.A.1.a. and b. and 4.; Ex.2004, ¶ 104; *In re Fritch*, 972 F.2d 1260, 1267 (Fed. Cir. 1992).

E. Ground 5: Ray, AAPA, and Daly do not render Claims 7-9 and 12 obvious.

1. Petitioner fails to specify where each element of Claims 7-9 and 12 is found in Ray, AAPA, and Daly.

Petitioner has the burden to "specify where each element of the claim is found in the prior art patents or printed publications relied upon," and "identif[y]

specific portions of the evidence that support the challenge.” *Sandbox*, IPR2019-00246, Paper 22, at *33-34 (quoting 37 C.F.R. § 42.104(b)(4), (5)); *Microsoft*, 860 F. App’x at 712-13 (quoting 37 C.F.R. § 42.104) (“[T]he petitioner is the ‘master of its complaint,’ and as such, ‘[i]t is of the utmost importance that petitioners adhere to the requirement that the initial petition identify “with particularity” the evidence that supports the grounds for the challenge to each claim.’”). “It is not the Board’s job to cobble together assertions from different sections of a petition or citations of various exhibits in order to infer every possible permutation of a petitioner’s arguments. Arguments in a petition must be made with particularity, not opacity.” *Id.* at 713.

Here, however, Petitioner jumps directly into arguing that the claim elements added in dependent claims 7-9 and in independent claim 12 are found in Daly but fails to specify where the other elements of the claims are found. Ex.2004, ¶ 106. Indeed, in applying its references to the elements of the Ground 5 claims, Petitioner does not even refer to or incorporate any element-by-element analysis from other Grounds. *Id.* At best, regarding claim 12, Petitioner vaguely refers to unspecified earlier stated sections addressing some claim elements. *See, e.g.*, Pet. at 68 (“*See claim 4, supra.*”). This is insufficient to specify where each element of claims 7-9 and 12 are found in the references. Ex.2004, ¶ 106; *Sandbox*, Paper 22, at 29 (“We decline Petitioner’s implicit invitation to incorporate

Petitioner's citations and analysis from Grounds 1-3 into this Ground.

Accordingly, we determine that Petitioner has failed to show unpatentability of claims 1-10 under Ground 4.”). Thus, Ground 5 should be rejected on this basis alone.

2. Petitioner impermissibly relies on AAPA.

Petitioner has impermissibly relied upon AAPA for the same reasons as stated in Ground 3. *See* Sections VI.C.1. Therefore, Ground 5 should be denied on that basis alone. Ex.2004, ¶ 107.

3. Petitioner fails to provide a reason for a POSITA to combine Daly with Ray and AAPA.

Petitioner adds Daly's pressure sensor to the Ray-AAPA combination because neither Ray nor AAPA disclose a pressure sensor as required by claims 7-9 and 12. Petitioner argues that a POSITA would have added Daly's pressure sensor for the same reason it would have incorporated Cox's current sensor in Ground 4. Pet. at 81. Contrary to Petitioner's argument, a POSITA would not have been motivated to or have a sound reason to combine Daly with Ray and AAPA for the same reasons as stated by Patent Owner in Ground 4. *See* Section VI.D.3; Ex.2004, ¶ 108.

4. Claims 7-9 and 12

Claims 7-9 are not obvious for the same reason claim 1 is not obvious as provided in Ground 3. *See* Sections VI.C.2.a. and b.; Ex.2004, ¶ 109; *In re Fritch*, 972 F.2d 1260, 1267 (Fed. Cir. 1992).

For claim 12, Petitioner appears to rely upon Ray for elements 12[e] and 12[f]. Pet. at 88. Claim 12 is not obvious because Ray lacks elements 12[e] and 12[f] for the same reasons it lacks elements 12[e] and 12[f] as provided in Ground 1. *See* Section VI.A.3; Ex.2004, ¶ 110.

F. Ground 6: Ray, AAPA, Daly, and Cox do not render Claim 13 obvious.

Claim 13 depends on claim 12. Petitioner fails to establish that claim 13 is obvious based on Ray, AAPA, Daly, and Cox for the reasons stated by Patent Owner in Grounds 1 and 5. *See* Sections VI.A.3 and E.4; Ex.2004, ¶ 111. Specifically, for the same reasons stated in Grounds 2 and 5, Petitioner fails to: (1) specify where each element of claim 13 is found in Petitioner's references; (2) improperly relies on AAPA; (3) provide a plausible reason to combine references; and (4) establish obviousness of the claim from which claim 13 depends – independent claim 12. Ex.2004, ¶ 111. Thus, Ground 6 does not establish obviousness of claim 13.

VII. CONCLUSION

The Board should find that the Petition has failed to demonstrate the unpatentability of any of the Challenged Claims.

Respectfully submitted,

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Dated: March 5, 2024

CERTIFICATION OF WORD COUNT UNDER 37 CFR § 42.24(d)

Under 37 C.F.R. § 42.24(d), the undersigned certifies that the word count for this Patent Owner Response totals 9,982, excluding the parts exempted by 37 C.F.R. § 42.24(a), (b)(2). The word count was made using the build-in word count function in the Microsoft® Word software used to prepare this document.

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CERTIFICATION OF SERVICE

The undersigned hereby certifies that “PATENT OWNER’S RESPONSE TO PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 10,032,227, DECLARATION OF DANIEL VAN DER WEIDE, EX2004, EX2005 and PATENT OWNER’S EXHIBIT LIST” for the above-captioned matter(s) was served in its entirety on March 5, 2024, upon the following parties via email at the below email addresses:

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