

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

Patent No. 10,923,225

Inter Partes Review No. IPR2023-00424

REPLY DECLARATION OF DR. HENRY H. HOUH, PH.D.

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I, Henry Houh, make this declaration in connection with the proceeding identified above.

I. INTRODUCTION

1. I have been retained by counsel for lululemon athletica canada inc. and lululemon usa inc. (collectively, “lululemon” or “Petitioner”) as a technical expert in connection with the proceeding identified above. I submit this declaration in support of lululemon’s Reply to Nike’s Patent Owner Response (POR (Paper 19)) for *Inter Partes* Review of United States Patent No. 10,923,225 (“the ’225 patent”) (Ex. 1001). I described my qualifications in detail in my opening declaration dated January 3, 2023, which I understand is Exhibit 1005 to this proceeding.

2. I have been asked to consider the October 10, 2023 Declaration of Dr. Scott McLean (Ex. 2004) and provide rebuttal opinions regarding the same. In performing my analysis in this proceeding, I have considered the ’225 patent, its prosecution history, Exhibit Nos. 1001-1016 and 2001-2006, and any materials described herein.

3. I am being compensated at my standard consulting rate. I am also being reimbursed for expenses that I incur during my work. My compensation does not depend on the results of my study and analysis, the substance of my

opinions, or the outcome of any proceeding involving the Challenged Claims. I have no personal or financial interest in the outcome of this matter or in any litigation involving the '225 patent.

4. I have personal knowledge of the facts and opinions set forth in this declaration and believe them to be true. If called upon to do so, I would testify competently thereto. I have been warned that willfully false statements and the like are punishable by fine or imprisonment, or both.

5. Although I am not a lawyer and will not provide any legal opinions, I have been advised to apply certain legal standards in forming my opinions. I set forth my understanding of those legal standards in my opening declaration. (Ex. 1005 (Jan. 3, 2023, Houh Decl.), ¶¶31-36.)

II. CLAIM CONSTRUCTION

6. I understand that the Board asked lululemon and Nike to offer proposed constructions for the term “data.” This term is part of the limitation “transmitting, by the sensor device and to the piece of workout equipment, a first set of data for operating a first function of the piece of workout equipment,” which I refer to as limitation [1B]. (Ex. 1001, 45:12-14.) This limitation appears in claim 1 of the '225 patent. Claim 1 also recites “transmitting, by the sensor device and to the piece of workout equipment, a first set of activity data corresponding to an

activity performed by a user during a first time period, wherein the piece of workout equipment is configured to display the first set of activity data,” which I refer to as limitation [1C]. And claim 12 recites “wherein the first sensor is programmed and adapted to:” “establish data communication with the piece of workout equipment” (limitation [12Ci]), and “transmit, to the piece of workout equipment, a first set of data operating a first function of the piece of workout equipment” (limitation [12Cii]). (*Id.*, 46:13-18.)

A. A POSITA Would Understand That “data” Means “information”

7. In my opinion, the claims support “data” as meaning “information.” Limitation [1B] simply recites “data” as information for “operating a first function of a piece of workout equipment.” A POSITA would understand the “data” of limitation [1B] as information because the data are used to increase or decrease the time period associated with the workout (claim 5), increase or decrease resistance level (claim 6), increase or decrease workout speed (claim 7), and increase or decrease incline level (claim 8). Further, “data” of limitation [1B] comprise user identification information (claims 9 and 18).

8. In my opinion, the specification supports “data” as meaning “information.” This is because the specification uses “data” and “information” interchangeably. For example, the passage at 19:34-67 begins by describing:

“*[d]ata* also may be transferred from the user’s portable equipment (e.g., module 502, interface device 506, and/or electronic device 508) to the exercise equipment or other workout or athletic performance setting 604.” And then the passage discusses transmitting “user ID information” to the exercise equipment (19:37-40), “control[ing] the exercise equipment” and using “workout information” (19:41-54), and “send[ing] workout identification information . . . to the exercise equipment” (19:56-60). After that, the same passage discusses “[d]ata collected as a workout progresses” and then states “[o]f course, *other information* also may be transmitted from the user’s portable equipment to [exercise equipment] 604.” (*Id.*, 19:61-67.)

9. As another example, the specification refers to “sensed information” in some instances, *e.g.*, at Ex. 1001, 17:39-40, and then refers to “sensed data” in other instances, *e.g.*, at 23:8. The specification further supports “data” as meaning “information” because it describes information as being examples of data. The passage at 21:17-18 describes “*data and information* produced by the [sensor] module 502,” and 21:49-54 describes “the sensor included with module 502 . . . may be able to detect at least some *data . . . such as information* relating to step count, heart rate, . . . *or other data*.”

10. In my opinion, the prosecution history supports “data” as meaning “information” including commands or instructions. I note that Dr. McLean does not discuss the prosecution history. During prosecution, the Examiner rejected the claims as anticipated by Brown. (Ex. 1010, 2.) Applicant amended the claims, introducing the recitation “a first set of data for operating a first function of the piece of workout equipment.” (*Id.*, 7.) The Examiner rejected the claims again, but this time as being obvious over Brown and another reference. In rejecting limitation [1B], the Examiner mapped “a first set of data” of limitation [1B] to Brown’s “machine *control* signal.” (Ex. 1011, 3 (emphasis added).) Applicant responded, but focused its arguments on limitation [1C]. (Ex. 1012.) Applicant remained silent with regard to limitation [1B], not challenging that “first set of data” encompasses commands or instructions (*i.e.*, control signals).

B. A POSITA Would Not Understand The Meaning Of “data” According To Nike’s And Dr. McLean’s Construction

11. I understand that Nike and Dr. McLean propose construing “data” as “factual information that is sensed or collected, and from which decisions or subsequent actions can be made.” (POR, 17-18; Ex. 2004, ¶¶35, 41.) I understand that Nike proposed a similar definition in its Patent Owner Preliminary Response (POPR (Paper 10)) of “factual information, from which decisions and subsequent actions can be made,” but the Board rejected Nike’s first construction. (Decision

on Institution (DI) (Paper 11), 10.) Nike seems to have added “that is sensed or collected” to its second construction, but does not explain why. I agree with the Board that “it is not immediately clear that [] a command or signal is entirely devoid of content recognized as ‘factual information’ so as to be beyond the contours of what a skilled artisan would regard as ‘data.’” (*Id.*) I disagree with Nike and Dr. McLean’s construction, as explain in paragraphs 12-22 below.

1. Claims

12. Dr. McLean argues that limitation [1B] requires that “data” be sensed or collected by a sensor. (Ex. 2004, ¶36.) I disagree. Limitation [1B] recites “*transmitting, by the sensor device* and to the piece of workout equipment, a first set of data.” (Ex. 1001, 45:11-12 (emphasis added).) Thus, the claims require that the “data” of limitation [1B] be transmitted—not that the “data” be “sensed or collected”—by a sensor device.

13. In my opinion, Nike’s and Dr. McLean’s construction is incorrect at least because it is at odds with claims 9 and 18. Claims 9 and 18 require the “first set of data comprises user identification information.” (Ex. 1001, 45:60-61, 46:60-61.) A POSITA would not understand the user identification information of the ’225 patent to be sensed or collected by a sensor device. Even Dr. McLean

believed that factual information that is sensed or collected excludes identification information (user identification information). (Ex. 1014, 35:24-36:12.)

14. Dr. McLean also argues that “data” must be information “from which decisions or subsequent actions can be made.” (Ex. 2004, ¶¶37-38, 40.) I note that limitation [1B] already recites a decision or subsequent action: “operating a first function of the piece of workout equipment.” (Ex. 1001, 45:13-14.) Similarly, limitation [1C] already recites “display[ing] the first set of activity data.” (*Id.*, 45:19-20.) For this reason, I disagree that “data” in limitation [1B] must be information from which decisions or subsequent actions can be made, as Dr. McLean suggests. Regardless, commands/instructions may be factual information from which decisions or subsequent actions can be made, contrary to Dr. McLean’s suggestions. (Ex. 2004, ¶40.) Controlling workout equipment is a decision or subsequent action that is made from a command or instruction.

2. Specification

15. Dr. McLean identifies certain passages in the ’225 specification to support his construction of “data.” (Ex. 2004, ¶39.) Dr. McLean identifies “athletic performance data . . . such as speed information, distance information, timing information, heart rate, pulse rate.” (*Id.* (citing 5:27-30).) But this passage is discussing athletic performance data (*i.e.*, “activity data” of limitation [1C])—

not the “data” of limitation [1B]. Also, since limitation [1B] and limitation [1C] are separate limitations, a POSITA would understand “data” of limitation [1B] and “activity data” of limitation [1C] (“transmitting, by the sensor device and to the piece of workout equipment, a first set of activity data corresponding to an activity performed by a user during a first time period”) to have different meanings. (Ex. 1001, 45:14-17.)

16. Dr. McLean also cites 4:13-17 of the ’225 specification: (“athletic performance sensing . . . to measure . . . physical and/or physiological data”). But this passage needs to be read with the entirety of the paragraph that it is within, specifically the following sentence that explains “more specific aspects of this invention relate . . . to enable *display* . . . of the *athletic performance* information and/or *data*.” (Ex. 1001, 4:17-26 (emphases added).) In other words, 4:13-26 refers to “activity data.”

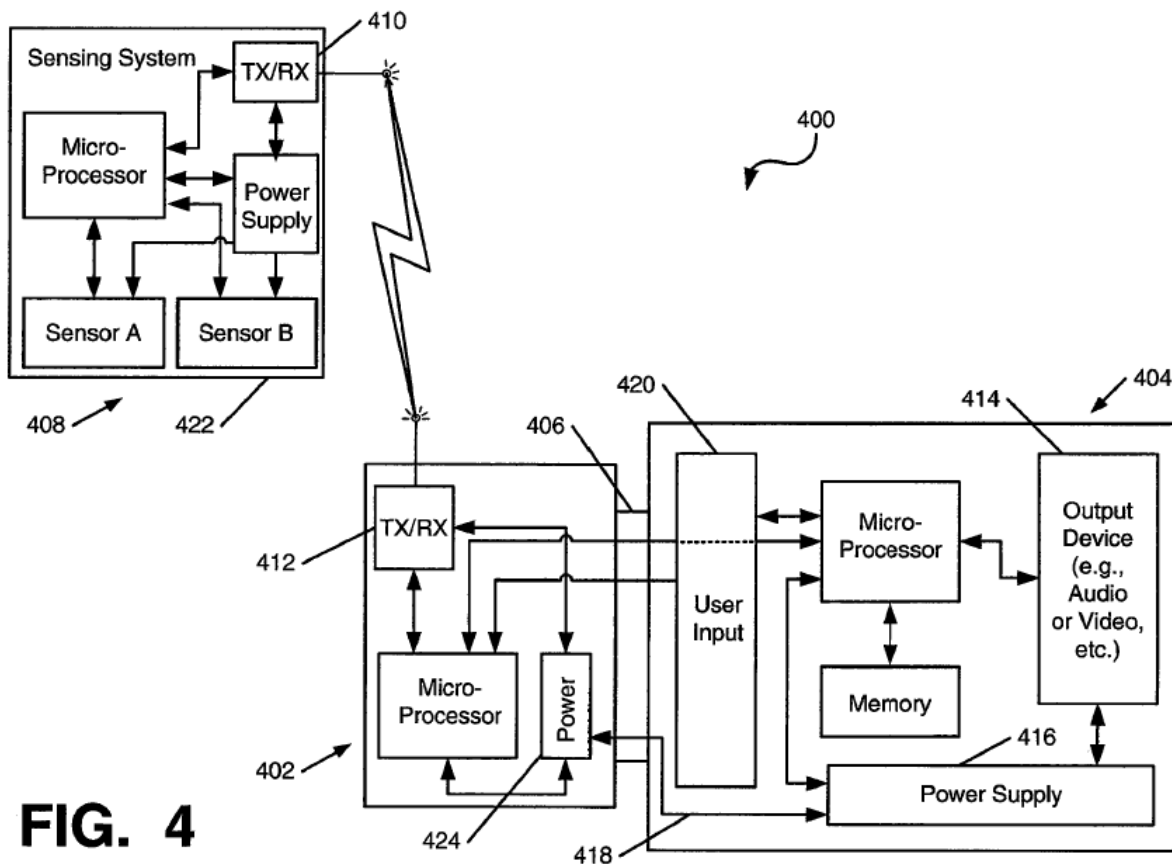
17. Dr. McLean cites two additional passages:

- 9:31-36, which discusses “step count and data associated with [] activities,” GPS data, force data, jump height data, and “data relating to an athletic performance that may be sensed and/or collected”; and
- 9:43-49, which discusses “data relating to an athletic performance.”

(Ex. 2004, ¶39.) Both passages again refer to “activity data.”

18. The specification further describes “data” as being broad, including different types of data, including (but not limited to) information that is not “sensed or collected.” For example, the passage at 8:6-8 describes “data pointing to [a] memory location.” The passage at 12:13-14 describes “data *derived* from physical or physiological data from the sensing devices.” The passage at 14:64-67 describes data that has been “*process[ed]* . . . or otherwise *manipulate[d]* [] data prior to” being transmitted. And the passage at 15:5-8 describes “raw data directly from one or more of the sensors, data *derived* at least in part from the raw data, etc.”

19. Additionally, Figure 4 (below) of the ’225 patent shows data that has been sensed or collected directly by the sensors as being processed before being transmitted. (Ex. 1001, 14:50-15:2.) Figure 4 shows the sensing system 408 (top left of figure) including sensors A and/or B, and data from the sensors being transmitted to the microprocessor before the microprocessor transmits data to other parts of the system 400. (*Id.*, 14:50-57.) That is, the microprocessor “may *process the sensor data*, chang[ing] its form or format, or otherwise *manipulat[ing]* the data *prior to sending it* on to other parts of the system 400” such as workout equipment. (Ex. 1001, 14:64-67.) As a result, the data transmitted by the sensing system 408 is not limited to raw data.

**FIG. 4**

C. Extrinsic Evidence

20. The two dictionaries that Dr. McLean relies on support “data” as meaning information. (Ex. 2004, ¶¶42, 44.) The Wiley Electrical and Electronics Engineering Dictionary provides two definitions of “data.” (Ex. 2002, 164.) As I explained during my deposition, “the second definition -- is more applicable to this case.” (Ex. 2005, 163:9-10; *see also id.*, 164:6-23 (“the first definition, which I think is -- is more about experimentation and recording results and observations from experiments . . . I took a bunch of data for that, and I wrote it in my lab

notebook, and I used that data to perform analysis. . . . certainly in the context of the 225 patent -- you know, we're talking about computerized systems here and -- and transmission media and, you know, things with microprocessors. So I do think the second definition listed here . . . is a better definition to use in this case.”.)

The first definition “[f]actual information, such as that derived from observation, experimentation, or calculation, especially that which is used for processing and/or further analysis” relates to lab experiments, whereas the second definition “[i]nformation which is represented in a manner suitable for digital transmission or computer use” relates to transmission and computers, like the ’225 patent.

(Ex. 2002, 164.) Thus, a POSITA would understand the ordinary and customary meaning of “data” in the ’225 patent according to the second definition, not the first definition.

21. The definition from the Oxford Dictionary of Computing (“[i]nformation, in any form, on which computer programs operate”) confirms that the ordinary and customary meaning of “data” is information. Nike and Dr. McLean argue that the Oxford Dictionary of Computing distinguishes “data” from “instructions,” and takes my testimony out of context to support their argument. (POR, 18-19; Ex. 2004, ¶42 (citing Ex. 2003, 124 (“[t]he distinction between program (instructions) and data is a fundamental one in computing”))).) This is

incorrect. As I explained in my deposition, “[d]ata’ is a broad term. Data encompasses a lot of different things, I think, generally speaking.” (Ex. 2005, 143:6-10.) “It’s not that instructions are not data. . . . the difference is . . . the [non-instruction] data upon which a program operates cannot simply be treated as an instruction.” (*Id.*, 158:8-13.) In the computer science field, a POSITA “look[s] at instructions as just another form of data. . . . And when you look at a program, if you just look at it, you can’t tell the difference between . . . what are instructions and what might not be instructions because it’s all digital data.” (*Id.*, 118:2-15.) In other words, data comprises information in the form of instructions and information that is not in the form of instructions (non-instruction data)—the computer interpreting instructions differently than interpreting non-instruction data is the “distinction” that the Oxford Dictionary of Computing is referring to. Thus, “data” comprises instructions *and* non-instruction data, where instructions are one type of data that “further instructs the computer what specific other sequences are to be done” (and non-instruction data are another type of data). (Ex. 2005, 154:16-19; *see also id.*, 141:11-12 (“instructions are a form of data, but they’re a very specific type”).) And the Oxford Dictionary of Computing is not saying that “data” and “instructions” are mutually exclusive, as Dr. McLean suggests. Rather, as explained by a computer systems textbook, “[c]rucially, there is *no distinction*

between instructions and data in the von Neumann architecture. ***For all intents and purposes, instructions are data.***” (Ex. 1016, 2 (emphases added).) Both types of data, instructions and non-instruction data, are in the form of 1s and 0s, where instructions are interpreted by the computer as instructions and non-instruction data are treated by the computer as information that itself is not an instruction. For an instruction, the computer may perform the function corresponding to the instruction, *e.g.*, increase treadmill speed. For non-instruction data, the computer may perform processing, some of which may result in an instruction (*e.g.*, using computed heart rate to generate an instruction to increase treadmill speed) and some of which may be information that is operated on (*e.g.*, a series of pulses may be information that the computer uses to compute heart rate).

22. Dr. McLean also relies on an article related to a National Aeronautics and Space Administration (NASA) spacecraft. (Ex. 2004, ¶43, Attachment C.) However, Dr. McLean fails to explain how a NASA spacecraft relates to or is in the same technical field as the ’225’s athletic performance sensing and/or tracking system. In understanding the meaning of “data” for the ’225 patent, a POSITA would not consider a paper related to a spacecraft as it is irrelevant and outside of the technical field.

III. ACRES

A. Acres Teaches “transmitting, by the sensor device and to the piece of workout equipment, a first set of data for operating a first function of the piece of workout equipment” (Limitation [1B]) And Limitation [12Cii]

23. Dr. McLean argues that Acres’s command is not a “first set of data.” (Ex. 2004, ¶¶58-59, 61.) As I discussed in paragraphs 7-22, the correct meaning of “data” is information. As I explained in my opening declaration, Acres transmits a command to the exercise equipment telling it to, *e.g.*, increase speed by specific amount. (Ex. 1005, ¶50.) Thus, Acres’s commands are information.

24. But even if Dr. McLean’s construction of “data” was correct, Acres’s commands still satisfy his construction. As I explained in my opening declaration, Acres’s Bug “can have a heart rate monitor integrated within itself.” (Ex. 1005, ¶49 (citing (Ex. 1002, [0025]); *see also* Ex. 1002, [0058] (describing the Bug as “be[ing] configured with a self-contained . . . heart rate sensor”).) Thus, Acres’s Bug and its associated sensors are together a sensor device that senses or collects factual information. Further, the Bug and its associated sensors transmit the commands to the exercise equipment.

25. Further, informational content of the commands reflect factual information that informs of the corresponding subsequent action to be taken. For example, a command that tells a treadmill to increase the speed by a specific

amount includes informational content that provides information (subsequent action is to increase the speed, the specific amount of increase, *e.g.*, “the Bug 601 would instruct the treadmill 150 to increase speed by 0.3 MPH”) corresponding to the subsequent action to be taken. (Ex. 1002, [0095].) Further, commands include informational content that has been collected such as a target parameter. (Ex. 2005, 43:1-24, 45:5-13.) In Acres, the user creates a user profile that reflects exercise goals, and the user profile is associated with the Bug. (Ex. 1002, [0022]-[0023].) As Acres explains, “the Bug 601 can control both speed and incline to match the [exercise] goals of the exerciser. The Bug 601 can be configured to control any number of machine parameters.” (*Id.*, [0096].) Thus, the exercise goals are factual information that has been collected that the Bug transmits to the treadmill to control its speed, incline, or any number of machine parameters.

26. Additionally, Acres discloses decisions or subsequent actions can be made from factual information. For example, “the Bug 601 sends a command to the treadmill 150 telling it to increase the speed by a specific amount.” (Ex. 1002, [0089].) As another example, “the Bug 601 can reduce treadmill speed to compensate. Alternatively, the Bug 601 can control both speed and incline to match the fitness goals of the exerciser. The Bug 601 can be configured to control

any number of machine parameters.” (*Id.*, [0096].) Here, the decision or subsequent action made is increasing the speed or incline of the treadmill, or controlling any number of machine parameters. As I explained in my deposition, “the command . . . [is] what triggers the action of the treadmill [] speed[ing] up.” (Ex. 2005, 115:20-21.)

27. Dr. McLean tries to make a distinction between “data” and “command” by citing passages in the ’225 specification that discuss a user’s command or voice commands. (Ex. 2004, ¶60 (citing Ex. 1001, 9:65-10:4, 13:6-9).) Dr. McLean then concludes that “command” as used in the ’225 patent means an action taken by the user. (*Id.*) Dr. McLean’s argument is misplaced. The claims require actions taken by computers—not a user. Claim 1 requires transmitting “data” by the sensor device (a computer) to a piece of workout equipment (a computer). (Ex. 1001, 45:12-13 (“transmitting, by the sensor device and to the piece of workout equipment”), 45:15-16 (same).) Thus, it is wrong for Dr. McLean to compare the ’225’s user command or voice command to the “data” recited in the claims.

28. Dr. McLean argues that “data” transmitted by the sensor device to the piece of workout equipment must be raw data sensed or collected directly by the sensor device (“data collected by the sensing module 502”), where new commands

are not generated prior to being transmitted to the piece of workout equipment.

(Ex. 2004, ¶61.) I disagree. As I discussed in paragraph 10, the '225 specification describes instances where processed data (non-raw data) is transmitted by the sensor device to the piece of workout equipment.

29. Dr. McLean also argues that in the '225 patent, the data itself operates a first function of the piece of workout equipment. (Ex. 2004, ¶62.) Dr. McLean cites only the claim language of limitation [1B] to support his argument. It is unclear how data itself can perform an operation. Raw data sensed or collected directly by a sensor includes, *e.g.*, a series of pulses for pulse rate information. The raw data itself (series of pulses) cannot perform an operation, and as a result, the raw data needs to be processed in order for the workout equipment to perform a corresponding operation. I explained this during my deposition: “when you send a 5 kilohertz signal pulse with each heartbeat, you’re not actually sending a rate. You’re sending pulses. Then -- the [processor] is [] interpreting those pulses. . . . but as long as the [processor] has a sense of time, which it would . . . it would need that in order to compute a heart rate. . . . So [the processor] would have to convert the pulses, know the timing there between to convert it into a -- a rate, such as how many beats per minute.” (Ex. 2005, 84:14-85:10.) As one example, “[t]he pulses -- these pulses are filtered for noise, averaged and converted to a number

representing beats per minute of the heart. So that's how you actually get to the heart rate from those 5 kilohertz pulses that were described earlier." (*id.*, 87:16-88:2.)

B. Claims 2-5, 7, 12-14, And 16

30. Dr. McLean does not dispute that Acres teaches claims 2-5, 7, 12-14, and 16.

IV. ACRES AND PYLES

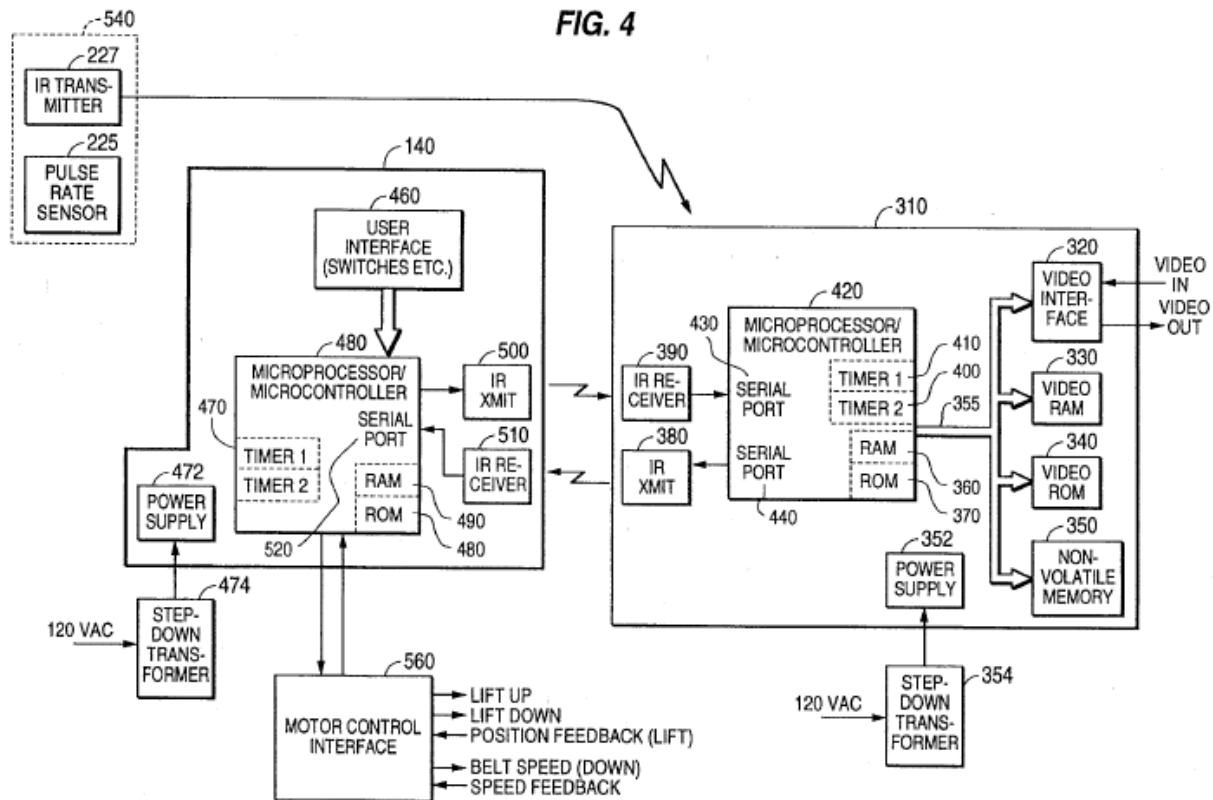
31. Dr. McLean argues that a POSITA would not have been motivated to combine Acres and Pyles because the combination results in a less portable method and system, an increased risk of data corruption or loss, and reduces data access to equipment and people. (Ex. 2004, ¶¶64-68.) In my opinion, a POSITA would recognize that, in some instances (such as when a user consistently uses one exercise machine and may not need portability or more data access to multiple pieces of equipment), there are benefits to storing user-specific historical data at an exercise machine over storing at a central site. As I explained in my opening declaration, these benefits include a reduced number of separate components, lower costs, eliminating the need for transferring data over an interconnection, and an expanded customer base. (Ex. 1005, ¶¶72-73.) Thus, a POSITA would be motivated to combine Acres and Pyles when these benefits are desired.

V. ABBONDANZA

A. Abbondanza Teaches “establishing, by a sensor device, data communication with a piece of workout equipment” (Limitation [1A]) And Limitation [12Ci]

32. Limitation [1A] requires a “sensor device.” The ’225 specification describes a “sensor device” as a device that includes a sensor, and optionally, a data transfer system, processing capabilities, or a power supply. (Ex. 1001, 10:35-37, 10:51-53 (“further” processing suggests the sensor device itself performs processing), 11:50-58, 16:54-57.)

33. Abbondanza’s base unit 250 includes processing capabilities and pulse rate sensor 225 includes a sensor, and thus the two work together as a “sensor device.” (Ex. 1003, 10:60-64, 11:14-17; Ex. 1014, 76:23-77:12; Ex. 2004, ¶70; Ex. 2005, 26:7-27:10, 44:21-25.) As Abbondanza explains, “[t]he invention also provides for a pulse controlled exercise system comprised of a *base unit* that has . . . a first controller. Moreover, *a pulse rate sensor* for sensing the pulse rate of a user of the exercise system *is included*.” (*Id.*, Ex. 1003, 5:16-20 (emphasis added).) Abbondanza’s Figure 4 (below) also shows the base unit and pulse rate sensor working together, with signals from the pulse rate sensor 225 going only to the base unit (labeled 310 in Figure 4).



B. Abbondanza Teaches “transmitting, by the sensor device and to the piece of workout equipment, a first set of data for operating a first function of the piece of workout equipment” (Limitation [1B]) And Limitation [12Cii]

34. Dr. McLean argues that Abbondanza does not teach a “first set of data” based on his construction of “data.” (Ex. 2004, ¶¶69-70.) As I discussed in paragraphs 7-22, the correct meaning of “data” is information. As I explained in my opening declaration, Abbondanza transmits an instruction to the exercise equipment to either speed-up or slow-down to cause the user to either work harder or work softer. (Ex. 1005, ¶57.) Thus, Abbondanza’s instructions are information.

35. But even if Dr. McLean's construction of "data" was correct, Abbondanza's instructions still satisfy his construction. As I discussed in paragraphs 32-33 above, Abbondanza's base unit and sensor are together a sensor device. Abbondanza's sensor senses or collects factual information, and its base unit transmits the instructions to the exercise equipment.

36. And instructions are factual information because they include informational content that provides information regarding the corresponding subsequent action to be taken. For example, an instruction that tells a treadmill to speed up or slow down includes informational content that provides information regarding whether to speed up or slow down. Further, the command includes informational content such as a target parameter that is collected. (Ex. 2005, 43:17-45:13.)

37. Dr. McLean also suggests that there are no subsequent actions from Abbondanza's instructions. (*Id.*) This is incorrect. Abbondanza discloses decisions or subsequent actions can be made from Abbondanza's instructions. For example, the treadmill receives these instructions from the base unit, and then takes the subsequent action of either speeding up or slowing down. (Ex. 1003, 11:16-23.)

38. Dr. McLean argues that Abbondanza's instructions do not satisfy a "first set of data" because its instructions are not raw data from the sensor device, where new instructions are not generated prior to being transmitted to the piece of workout equipment. (Ex. 2004, ¶71.) I disagree. As I discussed in paragraph 10 above, the '225 specification describes "data" of limitation [1B] as encompassing processed data (non-raw data) transmitted by the sensor device to the piece of workout equipment.

C. Claims 2-5, 7, 10, 13, 14, 16, And 19

39. Dr. McLean does not dispute that Abbondanza teaches claims 2-5, 7, 10, 13, 14, 16, and 19.

VI. ABBONDANZA AND PYLES

40. Dr. McLean does not dispute that Abbondanza and Pyles teach claims 9 and 18.

* * *

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code.

Dated:

1/17/24

Henry Houh.

Henry Houh, Ph.D.