

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC.,
Petitioner,

v.

MULLEN INDUSTRIES LLC,
Patent Owner.

IPR2025-00738
Patent 9,744,448 B2

Before KEN B. BARRETT, JEFFREY S. SMITH, and
MIRIAM L. QUINN, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

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

I. INTRODUCTION

Petitioner filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1, 3, and 6–8 of U.S. Patent No. 9,744,448 B2 (Ex. 1001, “the ’448 patent”) pursuant to 35 U.S.C. § 311(a). Patent Owner filed a Preliminary Response (Paper 9, “Prelim. Resp.”) pursuant to 35 U.S.C. § 313. In addition, pursuant to our authorization in an email sent August 6, 2025, Petitioner filed a Preliminary Reply (Paper 10) and Patent Owner filed a Preliminary Sur-Reply (Paper 11) directed to Patent Owner’s proposed construction of the claim term “physical playfield.”

Institution of an *inter partes* review may not be authorized by statute “unless . . . the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Upon consideration of the record before us, we determine Petitioner has demonstrated a reasonable likelihood that it would prevail in establishing the unpatentability of at least one of claims 1, 3, and 6–8 of the ’448 patent. Accordingly, we institute the requested *inter partes* review.

A. *Real Parties-in-Interest*

Petitioner identifies itself as the real party-in-interest. Pet. 1. Patent Owner identifies itself as the real party-in-interest. Paper 7, 1.

B. *Related Matters*

The parties state that the ’448 patent is currently asserted in *Mullen Industries LLC v. Meta Platforms, Inc.*, No. 1:24-cv-00354 DAE (W.D. Tex.). Pet. 1; Paper 3, 1. The Petition identifies twelve *inter partes* review proceedings challenging related patents. Pet. 1.

C. The '448 Patent

The '448 patent “relates to location-based game systems.” Ex. 1001, 1:18. An augmented reality (“AR”) system overlays video game indicia onto a user’s physical environment. *Id.* at code (57). A landscape detector obtains information about the user’s landscape and location, in order to provide overlaying information to an AR head-mounted display. *Id.*

D. Illustrative Claim

Challenged claim 1 of the '448 patent is reproduced below along with Petitioner’s labels for the limitations.

1. [1pre] An system comprising:
 - [1a] a display of a head-mounted device, wherein 3-D video game indicia is operable to be provided to said display with respect to a physical playfield based on video game logic associated with a video game;
 - [1b] a detector of said head-mounted device operable to determine landscape characteristics of said physical playfield, wherein said video game logic utilizes said landscape characteristics in providing said video game;
 - [1c] a locating device of said head-mounted device operable to determine the physical location of said locating device on said physical playfield, wherein said video game logic utilizes the physical location of said locating device in providing said video game; and
 - [1d] a processor, wherein a first virtual object is operable to be provided to said display and a first virtual character is operable to be provided to said display.

E. Asserted Grounds

Petitioner asserts that claims 1, 3, and 6–8 of the '448 patent are unpatentable on the following grounds (Pet. 3):

Ground	Claim(s) Challenged	35 U.S.C. § ¹	Reference(s)/Basis
1	1, 3, 7	103(a)	Jaszlics, ² Sofer, ³ Ronzani ⁴
2	6	103(a)	Jaszlics, Sofer, Ronzani, Morihira ⁵
3	8	103(a)	Jaszlics, Sofer, Ronzani, Robarts ⁶

II. ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner contends that

A person of ordinary skill would have possessed a bachelor's degree in electrical engineering, computer science, or similar field, with two years combined experience in designing and/or developing interactive location-based computer systems/software, such as video games or other simulations incorporating location information (such as GPS information associated with a user's physical location), and in designing and/or developing computer systems/software involving graphical virtual and/or augmented reality. A person could also have qualified as a person of ordinary skill in the art with some

¹ The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112–29, 125 Stat. 284 (Sept. 16, 2011), includes revisions to Section 103 that became effective on March 16, 2013. Because the challenged claims issued from an application claiming the benefit of the filing date of an application filed before March 16, 2013, we apply pre-AIA law.

² U.S. Patent No. 6,166,744 issued Dec. 20, 2000 (Ex. 1003).

³ Int'l Patent Appl. Pub. No. WO 2003/107039 A2 published Dec. 24, 2003 (Ex. 1008).

⁴ U.S. Appl. Pub. No. 2002/0163486 A1 published Nov. 7, 2002 (Ex. 1009)

⁵ U.S. Patent No. 6,361,438 B1 issued Mar. 26, 2002 (Ex. 1006).

⁶ U.S. Appl. Pub. No. 2004/0002843 A1 published Jan. 1, 2004 (Ex. 1007).

combination of (1) more formal education (such as a master's of science degree) and less technical experience, or (2) less formal education and more technical or professional experience. (EX1002, ¶¶21-25.)

Pet. 5. Patent Owner at this stage does not challenge Petitioner's definition of the level of ordinary skill. *See generally* Prelim. Resp. As Petitioner's definition of a person of ordinary skill appears commensurate with the subject matter before us, we apply Petitioner's definition for purposes of this Decision.

B. Claim Construction

We interpret the challenged claims

using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.

37 C.F.R. § 42.100(b) (2022). We construe expressly only those claim terms that require analysis to determine whether to institute *inter partes* review. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy”).

Petitioner submits that “express constructions are not required.”

Pet. 8. Patent Owner proposes construing the claim terms “a physical playfield,” “a detector of said head-mounted device,” and “a locating device of said head-mounted device.” Prelim. Resp. 16–23, 32, 45–46.

“a physical playfield”

Patent Owner proposes construing the claim term “a physical playfield” recited in independent claim 1 as “a bounded physical play

space.” Prelim. Resp. 17; Paper 11, 1. Patent Owner contends that the claims recite determining a physical location “on the physical playfield,” which implies that there is some space in the world that is off the physical playfield. Prelim. Resp. 19; Paper 11, 1. Patent Owner contends that although the Specification includes the phrase “a physical playfield (e.g., the physical world, a physical environment, or a defined physical playfield)” (Ex. 1001, 1:56–58), the Specification explains that this phrase means that each physical playfield is bounded, where some playfields are bounded as marked pieces of land in the physical world and some playfields are bounded as defined playfields such as a playmat. Prelim Resp. at 18–23 (citing Ex. 1001, Figs. 1, 3, 13, 1:57–58, 2:36–41, 2:61–67, 3:21–23, 5:23–30, 8:50–57, 8:63–64, 9:23–28, 12:1–10, 14:40–45, 20:28–58); Paper 11, 2. Patent Owner also cites to dictionary definitions of playfield that support its proposed construction. Prelim. Resp. 20; Paper 11, 3.

At this stage, we do not find Patent Owner’s proposed construction persuasive for several reasons. The claim does not recite “a defined physical playfield.” Rather, the claim recites “a physical playfield.” The Specification’s discussions of “playfield” cited by Patent Owner use non-limiting language such as “for example” and “may” in describing the playfield. Ex. 1001, 2:32–36, 2:55–61, 3:14–16, 5:63–65, 6:30–32, 8:31–45, 9:4–9, 19:60–20:22, 22:5–6. The disclosed examples of “a physical playfield” include “the physical world, a physical environment, or a defined physical playfield” (Ex. 1001, 1:56–58), which indicates that the applicant intended “a physical playfield” as claimed to encompass more than a defined or “bounded” physical playfield. This indication is consistent with the Specification’s disclosure that “the game world corresponds to an actual area

of the physical world (such as the planet Earth or New York City).”

Ex. 1001, 11:12–14. Thus, in one disclosed embodiment, the physical playfield is the entire (unbounded) world.

We are persuaded that the Specification’s descriptions of various embodiments with defined playfields and undefined playfields support construing the scope of a “physical playfield” as encompassing defined boundaries, or a “bounded” playfield, as well as a “physical playfield” with undefined boundaries, or an “unbounded” playfield. Limiting the claim term to only “bounded” play spaces would read out broader embodiments from the claim scope. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) (holding that interpreting a claim to exclude an embodiment disclosed in the written description “is rarely, if ever, correct and would require highly persuasive evidentiary support, which is wholly absent in this case”).

We, therefore, agree at this juncture with Petitioner’s claim construction analysis, and note that the alleged goal of improving the safety in virtual reality gaming does not support Patent Owner’s construction. Paper 10, 2 (Petitioner arguing that the ’448 patent’s description of an augmented reality system where a user can view the physical surroundings makes a “bounded” physical playfield unnecessary). Further, we find unpersuasive, at this juncture, Patent Owner’s arguments related to embodiments of how the information about the playfield is captured and stored to construct the playfield and perform scaling. Prelim. Resp. 7–13. As Petitioner notes, and we agree, none of these features are recited in the independent claims. Paper 10, 2. And, to the extent there is a distinction

between being “on” or “off” the “physical playfield” as Patent Owner argues, the claim language requires no such determination or detection.

Finally, the extrinsic dictionary definitions cited by Patent Owner are “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005). And in any event, we may not rely on dictionary definitions that contradict what the patent documents describe. *See Advanced Fiber Tech. (AFT) Trust v. J & L Fiber Servs., Inc.*, 674 F.3d 1365, 1374–75 (Fed. Cir. 2012) (holding erroneous a construction informed by a dictionary definition but in disagreement with one sentence of the written description).

Accordingly, for the reasons given above, we do not adopt Patent Owner’s proposed construction. Despite our disagreement with the construction, we nonetheless consider it in our unpatentability analysis below and determine at this stage that the cited prior art teaches “a physical playfield” even under Patent Owner’s proposed construction.

“a detector of said head-mounted device”

Patent Owner contends that the claim term “a detector of said head-mounted device” means that the head-mounted device possesses the detector and includes the detector. Prelim. Resp. 32. To support its contention, Patent Owner relies on two dictionary definitions of the word “of,” which are (1) a function word to indicate belonging or a possessive relationship and (2) a function word to indicate the whole that includes the part denoted by the preceding word. *Id.* (citing Ex. 2005).

On this record, we are not persuaded that the claim term “a detector of said head-mounted device” means that the detector must be “on” or “in” the

head-mounted device. We agree with Petitioner that the claim does not recite that the detector is located “on” or “in” the head-mounted device. Further, even accepting and applying the definition “to indicate belonging or a possessive relationship” cited by Patent Owner (Prelim. Resp. 32 (quoting Ex. 2005, 1)), the claimed detector has a relationship to the head-mounted device, which is providing information to the head-mounted device, without requiring a specific location or integration within or on a head-mounted device. The example given by the dictionary for this definition is “king *of* England,” which shows the relationship between the king and England, but does not indicate the location of the king. Ex. 2005, 1. Even when the king is in Canada, he is still king of England. Also, the example given for the definition “to indicate the whole that includes the part denoted by the preceding word” is “most *of* the army.” *Id.* This does not indicate the location of the army and does not indicate that the individual soldiers of the army are located together. Most of the army may be in a field while the rest of the army is at camp. Similarly, a display of a computer may be located on a desk while the computer itself may be located elsewhere such as under the desk.

At this stage we do not construe “a detector of said head-mounted device” as requiring the detector to be located on or in said head-mounted device. We are sufficiently persuaded that the scope of “a detector of said head-mounted device” encompasses a detector located outside of the head-mounted device having a relationship to the head-mounted device of providing information to the head-mounted device.

Despite our disagreement with Patent Owner’s proposed construction, we nonetheless consider it in our unpatentability analysis below and

determine at this stage that the cited prior art teaches “a detector of said head-mounted device” even under Patent Owner’s proposed construction.

“a locating device of said head-mounted device”

Patent Owner contends that the claim term “a locating device of said head-mounted device” means that the locating device is on or in the head-mounted device. Prelim. Resp. 45–46. We disagree with Patent Owner for the reasons given in our construction of “a detector of said head-mounted device.” Despite our disagreement with Patent Owner’s proposed construction, we nonetheless consider it in our unpatentability analysis below and determine at this stage that the cited prior art teaches “a locating device of said head-mounted device” even under Patent Owner’s construction.

C. Analysis of Ground 1

For ground 1, Petitioner contends that claims 1, 3, and 7 would have been obvious over the combination of Jaszlics, Sofer, and Ronzani. Pet. 12–49. In doing so, Petitioner explains how the combination satisfies each claim limitation and provides supporting testimony from its expert, Dr. Cooperstock. *See id.* Patent Owner challenges ground 1 by contending that Jaszlics and Sofer do not teach certain limitations of independent claim 1 and that a person of ordinary skill in the art would not have combined the teachings of Jaszlics with those of Sofer and Ronzani. Prelim. Resp. 31–50.

Claim 1

In disputing Petitioner’s showing for claim 1, Patent Owner contends that the Petition has not shown that the combination teaches “a physical playfield,” “a detector of said head-mounted device,” and “a locating device of said head-mounted device” as claimed. Prelim. Resp. 30–35, 45–48.

Patent Owner contends that the Petition has not shown a reason to modify Jaszlics to contain a detector in a head-mounted device, either alone or in combination with Sofer. *Id.* at 35–45. Patent Owner contends that Petitioner has not shown a reason to modify Jaszlics to contain a locating device in a head-mounted device, either alone or in combination with Ronzani. *Id.* at 46–51.

Patent Owner’s contention that the combination does not teach “a physical playfield”

Patent Owner contends that the combination of Jaszlics and Sofer does not teach a physical playfield as properly construed. Prelim. Resp. 31. As discussed in our claim construction above, we are not persuaded by Patent Owner’s argument that the claim term “physical playfield” is limited to a bounded physical play space. However, even under this proposed narrower construction, we are sufficiently persuaded that the combination teaches the recited “physical playfield.”

Jaszlics discloses that its system creates virtual elements in theme parks and entertainment-oriented environments. Ex. 1003, 2:14–16, 2:67–3:1; *see id.* at 18:48–55. We are sufficiently persuaded that a theme park is a bounded physical play space. In addition, Jaszlics discloses training armored vehicle crews by using both virtual vehicles and actual vehicles moving over real terrain. Ex. 1003, 1:38–60. We are sufficiently persuaded that a skilled artisan would have envisioned that such training occurs on a military base, which is bounded.⁷ Jaszlics further discloses that its training field includes boundary markers. Ex. 1003, Fig. 15, 10:1–9. We are

⁷ Compare with Ex. 1001, 5:22–27 (describing utilizing the disclosed game in a military base).

sufficiently persuaded that the tank training field of Jaszlics, which has boundary markers and is located on a military base, is a bounded physical play space. Therefore, even under Patent Owner's narrower construction, we are sufficiently persuaded that a person of ordinary skill would have recognized that a user would have played at least some of the video games provided by the combined system of Jaszlics and Piekarski in a bounded physical play space such as a theme park or a military base.

Patent Owner's contention that Jaszlics fails to suggest a detector of said head-mounted device

Claim 1 recites "a detector of said head-mounted device operable to determine landscape characteristics of said physical playfield." Patent Owner contends that the detector of Jaszlics is not located on the head-mounted device. Prelim. Resp. 34–35. Patent Owner's contention is not commensurate with the scope of the claim as discussed in our claim construction above. However, even under Patent Owner's narrower construction, we are sufficiently persuaded that the combination of Jaszlics and Sofer teaches this limitation.

Patent Owner contends that Jaszlics does not suggest locating the detector on the head-mounted device, either alone or in combination with Sofer. Prelim. Resp. 35–45. Patent Owner's contention addresses Jaszlics's use of its system to train an armored vehicle crew in a virtual tank environment. *Id.* However, Jaszlics discloses other applications for its system. For example, Jaszlics discloses using its system to play laser tag. *Id.* at 1:64–67. Jaszlics further discloses that the user may be an individual moving in the real world instead of housed in a vehicle (*id.* at 10:63–67; *see id.* at 5:13–18, 11:16–18), and that changes in the user's head position control the optical axes of the detector (*id.* at 11:43–47). We are persuaded

that Jaszlics suggests locating the detector on the head-mounted display of a user moving in the real world, such as a user playing laser tag. Sofer explicitly describes what Jaszlics implicitly suggests, namely, locating the detector in the head-mounted device. Ex. 1008,⁸ 6, 13, Fig. 4. Accordingly, we are sufficiently persuaded that the combination of Jaszlics and Sofer teaches “a detector of said head-mounted device” even under Patent Owner’s narrower interpretation.

Patent Owner’s contention that there is no motivation to combine Jaszlics and Sofer

Patent Owner contends that Sofer’s lightweight, low-power, head-worn detector is incompatible with Jaszlics’s long-range detecting needs of up to several kilometers for a war game simulation. Prelim. Resp. 40–41. Again, Patent Owner’s contention addresses Jaszlics’s teaching of a system to train an armored vehicle crew but does not address other teachings of Jaszlics. An entertainment embodiment of Jaszlics such as laser tag would not need a detector for long ranges of several kilometers. We are sufficiently persuaded that the lightweight, low-power, head-worn detector of Sofer would be suitable for Jaszlics’s laser tag embodiment.

Patent Owner contends that Sofer, unlike Jaszlics, does not combine real and virtual images and does not provide any image output. Prelim. Resp. 41–43. However, the “question in an obviousness inquiry is whether it would have been obvious to a person of ordinary skill in the art to combine the relevant disclosures of the two references, not whether each individual reference discloses all of the necessary elements.” *Game &*

⁸ We cite to the page numbers of Sofer added by Petitioner rather than to the original page numbers.

Tech. Co. v. Wargaming Grp. Ltd., 942 F.3d 1343, 1352 (Fed. Cir. 2019).

Patent Owner’s arguments against the references individually do not address Petitioner’s combination. Petitioner relies on Jaszlics to teach a virtual reality system including a detector that determines landscape characteristics and a head-mounted device that displays virtual and real images, and relies on Sofer to teach placing the detector on the head-mounted device.

Patent Owner contends that Jaszlics and Sofer are not analogous because they are drawn to completely different fields and problems, which are “augmented reality war game simulations and audibly-relayed image recognition for blind people.” Prelim. Resp. 42. Our reviewing court addressed the issue of determining whether a reference is analogous art:

A reference qualifies as prior art for an obviousness determination under § 103 only when it is analogous to the claimed invention. Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. . . . A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem. If a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem, and that fact supports use of that reference in an obviousness rejection.

In re Klein, 647 F.3d 1343, 1348 (Fed. Cir. 2011). Jaszlics discloses that the “invention relates . . . to systems for combining virtual images with real-world scenes” to provide applications such as virtual reality games (Ex. 1003, 1:13–21), which is the same field as the ’448 patent’s field of

“location-based games and augmented reality systems” (Ex. 1001, Title). Turning to Sofer, the purpose of the detector of Sofer is to detect the location of objects in the user’s surrounding environment (Ex. 1008, Abstract; *see id.* at 2, 6, 11), which is the same purpose as the detector of the ’448 patent (Ex. 1001, 15:4–5; *see id.* at 1:28–31, 2:5, 16:11–18, 19:54–57). Therefore, Sofer’s detector is reasonably pertinent to the particular problem of detecting the location of objects in the user’s surrounding environment. We are sufficiently persuaded that Jaszlics and Sofer are analogous to the claimed invention.

Patent Owner contends that Petitioner has not identified a reason to replace the detector of Jaszlics with the head-mounted detector of Sofer. Prelim. Resp. 43–45. However, Petitioner contends that the combination incorporates Sofer’s range-detecting techniques into Jaszlics’s head-mounted device to yield the predictable result of head-mounted goggles that include a head-mounted detector. Pet. 31–32. We agree with Petitioner that adding Sofer’s head-mounted detector to Jaszlics’s head-mounted device “simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement,” which is a head-mounted virtual reality system worn by an individual user. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). We are also sufficiently persuaded that a person of ordinary skill would have used the head-mounted detector of Sofer in the head-mounted device of Jaszlics for the lightweight and low-power benefits of Sofer’s detector.

Patent Owner’s contention that Jaszlics fails to suggest a locating device of said head-mounted device

Claim 1 recites “a locating device of said head-mounted device operable to determine the physical location of said locating device.” Patent

Owner contends that the claim requires the locating device to be on or in the head-mounted device, and that Jaszlics does not disclose a locating device on or in the head-mounted device. Prelim. Resp. 45–48. Patent Owner’s contention is not commensurate with the scope of the claim as discussed in our claim construction above. However, even under Patent Owner’s narrower construction, we are sufficiently persuaded that the combination of Jaszlics and Ronzani teaches this limitation.

Petitioner contends that Jaszlics discloses a head-mounted display device. Pet. 13 (citing Ex. 1003, 2:10–13, 9:48–57). Petitioner contends that Ronzani discloses a head-mounted display device that contains a GPS, which provides a user with the user’s location. *Id.* at 38 (citing Ex. 1009, Fig. 42, ¶¶ 189, 191). Petitioner contends that combining Jaszlics’s head-mounted display device with Ronzani’s head-mounted GPS device teaches “a locating device of said head-mounted device” under Patent Owner’s narrower construction. *Id.* at 37–40. We are sufficiently persuaded by Petitioner’s contentions at this stage.

Patent Owner’s contention that there is no motivation to combine Jaszlics and Ronzani

Patent Owner contends that a person of ordinary skill would not have modified the goggles of Jaszlics to include the head-mounted GPS device of Ronzani. Prelim. Resp. 48–49. According to Patent Owner, at the time of invention, soldiers wore GPS receivers on the body because the body is more capable of sustaining additional weight than the head and neck, and also because wearing hardware on a helmet exposes the hardware to a greater potential for damage. *Id.* Patent Owner also contends that Jaszlics provides a complete and functioning system in which GPS can be provided

to moving observers and does not need enhancement or improvement. *Id.* at 49.

However, the reference cited by Patent Owner describes a system that “will provide situational awareness and enhanced situational understanding to support faster and more accurate decisions in combat.” Ex. 2006, 9. In contrast, Jaszlics discloses a virtual reality system used for training, simulations, and games. Ex. 1001, 1:13–67. Even accepting Patent Owner’s contention that a combat soldier would have worn a GPS device on the body rather than on the helmet, we are sufficiently persuaded that a person other than a soldier entering combat, such as a person playing laser tag, would have benefitted from locating the GPS device on Jaszlics’s head-mounted device, because “the user’s head [is] the body location most capable of receiving unobstructed signals from overhead GPS satellites.” Ex. 1002 ¶ 109. We also agree, at this juncture, with Petitioner and Dr. Cooperstock that, given the finite number of body locations (Pet. 32; Ex. 1002 ¶¶ 109, 113), placing the GPS device in Jaszlics’s head-mounted device would have been obvious to try. *See Uber Techs., Inc. v. X One, Inc.*, 957 F.3d 1334, 1341 (Fed. Cir. 2020). We also are sufficiently persuaded that adding the head-mounted GPS device of Ronzani to the head-mounted device of Jaszlics simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, which is a head-mounted virtual reality system that includes a locating device.

Conclusion for ground 1

We determine that Petitioner demonstrates a reasonable likelihood of showing that claim 1 is unpatentable over the combination of Jaszlics, Sofer,

and Ronzani. Patent Owner does not dispute Petitioner's showing that the combination teaches the limitations of dependent claims 3 and 7.

D. Analysis of Grounds 2 and 3

Petitioner contends that claim 6 would have been obvious over the combination of Jaszlics, Sofer, Ronzani, and Morihira, and that claim 8 would have been obvious over the combination of Jaszlics, Sofer, Ronzani, and Robarts. Pet. 49–59. In doing so, Petitioner explains how the combinations satisfy each claim limitation and provides supporting testimony from its expert. *See id.* In disputing these grounds, Patent Owner relies on the same arguments it made in disputing ground 1, which we find unpersuasive. In reviewing the preliminary record, we find that Petitioner sufficiently shows that the combinations teach the limitations of claims 6 and 8, and demonstrates a reasonable likelihood of showing that these claims are unpatentable over the prior art.

III. CONCLUSION

Based on the arguments presented in the Petition, we conclude that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to at least one claim of the '448 patent challenged in the Petition. Accordingly, we institute a trial on all claims and all grounds asserted in the Petition. The Board has not made a final determination under 35 U.S.C. § 318(a) with respect to the patentability of the challenged claims.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1, 3, and 6–8 of the '448 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the '448 patent shall commence on the entry date of this Decision, and notice is hereby given of the institution of a trial.

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Patent 9,744,448 B2

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