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Paper No. 9
Entered: January 30, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PACIFIC SURF DESIGNS, INC.,
Petitioner,

v.

SURF WAVES, LTD.,
Patent Owner.

Case IPR2016-01454
Patent 8,088,016 B2

Before PHILLIP J. KAUFFMAN, BEVERLY M. BUNTING, and JASON W. MELVIN, *Administrative Patent Judges*.

MELVIN, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Petitioner, Pacific Surf Designs, Inc., filed a Petition (Paper 1, "Pet.") requesting *inter partes* review of all claims of U.S. Patent No. 8,088,016 (Ex. 1001, "the '016 patent"), claims 1–20. Patent Owner, Surf Waves, Ltd., did not file a Preliminary Response. Pursuant to 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a), we have jurisdiction to determine whether to institute review.

An *inter partes* review may not be instituted 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). For the reasons set forth below, we conclude that there is a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of claims 1–20. We therefore institute *inter partes* review of claims 1–20 based on the grounds identified in the Order section of this decision.

Our factual findings and conclusions at this stage of the proceeding, including claim constructions, are preliminary and are based on the evidentiary record developed thus far. This is not a final decision as to the patentability of claims for which *inter partes* review is instituted. Our final decision will be based on the record as fully developed during trial.

A. RELATED MATTERS

The parties identify the following pending judicial matter as relating to the '016 patent: *Flowrider Surf, Ltd. v. Pacific Surf Designs, Inc.*, Case No. 15cv1879 (S.D. Cal.). Pet. 1;[1] Paper 5, 2.

B. REAL PARTIES IN INTEREST

Petitioner identifies no additional real party-in-interest. Pet. 1. Patent Owner identifies WhiteWater West Industries, Ltd., a Canadian corporation that wholly owns Patent Owner, as a real party in interest. Paper 5, 2.

C. THE '016 PATENT

The '016 patent is titled "Half-Pipe Water Ride," was filed April 21, 2009, issued January 3, 2012, and claims priority to a provisional application filed April 21, 2008. Ex. 1001, [54], [22], [45], 1:5–8. The '016 patent describes a water ride in which water flows from a water-delivery section through an activity section and to a dewatering section. *Id. at* 1:23–37. The activity section includes curved sidewalls on opposite sides of a middle section of the activity section. *Id.* Figure 1 of the '016 patent is reproduced below:

[1] Citations to the Petition refer to the page numbers as used in the Petition's Table of Contents.

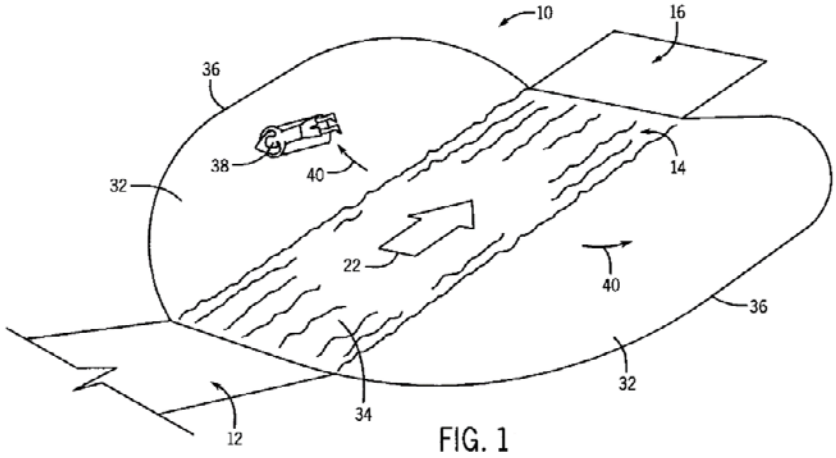


FIG. 1

Figure 1 illustrates an embodiment of the half-pipe water ride with water-delivery section 12, activity section 14, and dewatering section 16; activity section 14 includes middle section 34 and sidewalls 23. *Id.* at Fig. 1, 1:41–42, 2:42–62, 3:22–24. Water from the dewatering section is returned to the water-delivery section through a water-retrieval section, as depicted in the embodiment of Figure 5. Figure 5 is reproduced below:

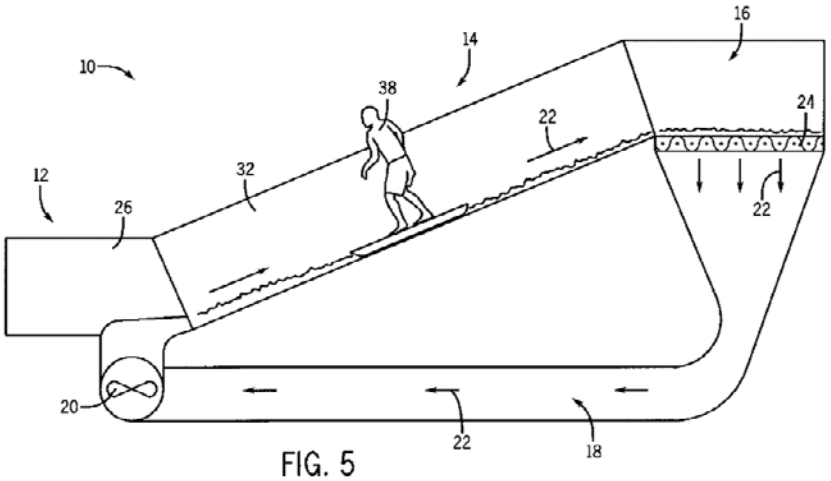


FIG. 5

Figure 5 illustrates a cross-section view with pump 20 circulating water through a nozzle assembly and into the ride as described above. *Id.* at 1:49–50, 2:46–48, 2:58–62, 2:67–3:2.

D. CHALLENGED CLAIMS

The only two independent claims of the '016 patent, 1 and 20 (reproduced below), are illustrative of the claimed subject matter:

1. A water ride for use by a rider, the water ride comprising:

an activity section including a substantially flat middle section,

a first curved sidewall extending substantially upwardly from an edge of the middle section, and

a second curved sidewall extending substantially upwardly from another edge of the middle section opposite the first curved side;

a water delivery section coupled to a side of the middle section; and

the water delivery section configured and arranged to deliver water up the middle section in a direction substantially opposite the rider's direction of travel along the middle section;

a dewatering section coupled to another side of the middle section opposite the water delivery section and located at an elevation higher than the water delivery section;

and a rider exit located adjacent the water delivery section.

Id. at 4:58–5:8.

20. A water ride for use by a rider, the water ride comprising:

an activity section including

a substantially flat, inclined middle section,

a first curved sidewall extending substantially upwardly from an edge of the middle section, and

a second curved sidewall extending substantially upwardly from another edge of the middle section opposite the first curved side;

a water delivery section coupled to a side of the middle section;

the water delivery section including at least one nozzle configured and arranged to deliver water up the entire length of the middle section;

a dewatering section coupled to another side of the middle section opposite the water delivery section and located at an elevation higher than the water delivery section; and

a rider exit located adjacent the water delivery section.

Id. at 6:19–36.

E. PROPOSED GROUNDS OF UNPATENTABILITY

Petitioner relies on the following references:

Exhibit	Reference
1003	U.S. Pat. No. 6,491,589 B1, iss. Dec. 10, 2002 ("Lochtefeld 589")
1004	U.S. Pat. No. 5,738,590, iss. Apr. 14, 1998 ("Lochtefeld 590")
1005	U.S. Pat. No. 6,676,530 B2, iss. Jan. 13, 2004 ("Lochtefeld 530")

Petitioner presents certain grounds in the alternative. *E.g.*, Pet. 26 ("Even if the Board disagrees that the nozzle cover is a second exit, it would have been obvious to modify Lochtefeld 589 in view of itself to disclose the limitation."), 50 ("To the extent the Board disagrees [that Lochtefeld 530 teaches curved sidewalls], however, using curved sidewalls was known as shown in Lochtefeld 590, and it would have been obvious to combine Lochtefeld 590 with Lochtefeld 530 to arrive at that limitation."). To clearly identify the grounds on which we institute, we exercise our discretion to

recast the challenges presented in the Petition in view of the specific prior art and arguments actually relied upon for the challenged claims. *See In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1273 (Fed. Cir. 2015) ("Nor does the IPR statute expressly limit the Board's authority at the final decision stage to the grounds alleged in the IPR petition."), *aff'd, Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131 (2016); *see also SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307, 1312–13 (Fed. Cir. 2015) (noting that governing statutory provisions do not limit the Board's authority to proceed with AIA trial proceedings only on the specific statutory grounds alleged in the petition). Thus, we understand Petitioner to assert the following grounds of unpatentability: [2]

Reference(s)	Basis	Challenged Claims
Lochtefeld 589	§ 102(b)	1–6, 8, 9, 11, 12, 15–17, 19, and 20[3]
Lochtefeld 589	§ 103(a)[4]	1–20
Lochtefeld 589 and Lochtefeld 590	§ 103(a)	1–20

[2] The Leahy-Smith America Invents Act ("AIA") included revisions to 35 U.S.C. § 100 *et seq.* effective on March 16, 2013. Because the '016 Patent issued from an application filed before March 16, 2013, we apply the pre-AIA versions of the statutory bases for unpatentability.

[3] Petitioner asserts that claims 1–20 are "Anticipated Or Rendered Obvious By Lochtefeld 589" but asserts that Lochtefeld 589 teaches the limitations of only the claims listed here.

[4] Although Petitioner presents single-reference obviousness arguments intertwined with anticipation arguments, we consider them two separate grounds and evaluate them separately. *See SightSound*, 809 F.3d at 1312–13.

Reference(s)	Basis	Challenged Claims
Lochtefeld 530[5]	§ 102(b)	1–5, 11, 15, 16, 18, and 20
Lochtefeld 530 and Lochtefeld 590	§ 103(a)	1–20

F. LEGAL PRINCIPLES

1. Anticipation overview

A patent claim is unpatentable under 35 U.S.C. § 102 if "the four corners of a single, prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation." *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000). "A single prior art reference may anticipate without disclosing a feature of the claimed invention if such feature is necessarily present, or inherent, in that reference." *Allergan, Inc. v. Apotex Inc.*, 754 F.3d 952, 958 (citing *Schering Corp. v. Geneva Pharm.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003)). We analyze the ground based on anticipation in accordance with the above-stated principles.

2. Obviousness overview

An invention is not patentable "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a

[5] Although Petitioner presents as a single ground "Lochtefeld 530 In View Of Lochtefeld 590," Petitioner argues that Lochtefeld 530 alone teaches the limitations of claims 1–5, 11, 15, 16, 18, and 20 (Pet. 49–59), and we thus also consider the ground based on anticipation by Lochtefeld 530 alone. *See SightSound*, 809 F.3d at 1312–13.

person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and, (4) where in evidence, so-called secondary considerations, including commercial success, long-felt but unsolved needs, and failure of others. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). When evaluating a combination of teachings, we must also "determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441, F.3d 977, 988 (Fed. Cir. 2006)). Whether a combination of elements produced a predictable result weighs in the ultimate determination of obviousness. *KSR*, 550 U.S. at 416–17. We analyze the grounds based on obviousness in accordance with the above-stated principles.

II. DISCUSSION

A. CLAIM CONSTRUCTION

Before the Board, claims in an unexpired patent are interpreted according to their broadest-reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016). Under that standard, we generally give a claim term its "ordinary and customary meaning," which is "the meaning that the term would have to a person of ordinary skill in the art in question" at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). The specification may impose a specialized meaning, departing from the

ordinary and customary meaning, by defining a term with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Further, a party may prove "the existence of a 'clear and unmistakable' disclaimer" that narrowed a term's definition in the prosecution history of a challenged patent. *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1063–64 (Fed. Cir. 2016) (quoting *Elbex Video, Ltd. v. Sensormatic Elecs. Corp.*, 508 F.3d 1366, 1371 (Fed. Cir. 2007)).

Petitioner proposes constructions for "opposite," "coupled," "middle section," and "the first curved side," each of which appear in all challenged claims. Pet. 17–20. We address those terms below and note that our constructions are consistent with those of the district court in the related litigation. *See* Ex. 1013. We have identified two additional terms that may affect our ultimate determinations regarding certain claims, and address those terms also below. Having considered the evidence presented, for all other terms we conclude that no express claim construction is necessary for our determination of whether to institute review of the challenged claims. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) ("[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.").

1. "Opposite"

All claims of the '016 patent recite one "curved sidewall extending substantially upwardly from an edge of the middle section" and another "curved sidewall extending upwardly from another edge of the middle section opposite the first curved side[wall]." Ex. 1001, 4:61–65, 6:23–27. They also recite "a dewatering section coupled to another side of the middle section opposite the water delivery section." *Id.* at 5:5–6, 6:33–34. And

claim 1 recites that the water-delivery section is "arranged to deliver water . . . in a direction substantially opposite the rider's direction of travel along the middle section." *Id.* at 5:1–4.

Petitioner asserts that the broadest-reasonable interpretation of "opposite" in the claims is "on the other side from." Pet. 18. Petitioner maintains this interpretation is consistent with Patent Owner's assertions in the related district-court litigation. *Id.* (citing Ex. 1010, 29:7–9; Ex. 1011; Ex. 1012, 10:20–21).[6] The specification of the '016 patent uses "opposite" only in the Abstract, Summary, and claims, and provides no elaboration regarding the term's meaning. *See* Ex. 1001, [57], 1:24–32. We agree that Petitioner's proposed construction is consistent with the plain and ordinary meaning of the word "opposite" and adopt that construction for purposes of this decision. As such, we construe "opposite" to mean "on the other side from."

2. "Coupled"

All claims of the '016 patent recite "a water delivery section coupled to a side of the middle section" and "a dewatering section coupled to another side of the middle section opposite the water delivery section." *Id.* at 4:66–67, 5:5–6, 6:28–29, 6:33–34. Petitioner proposes a construction of "coupled" as "connected, directly or indirectly (e.g., not restricted to physical or mechanical connections)." Pet. 19. Petitioner relies on the specification, which states that "[u]nless specified or limited otherwise, the terms 'mounted,' 'connected,' 'supported,' and 'coupled' and variations

[6] Page numbers in Exhibits 1010 and 1012 refer to the branding in the bottom-right corner of each page added by Petitioner.

thereof are used broadly and encompass both direct and indirect mountings, connections, supports, and couplings." Ex. 1001, 2:19–22. The specification also states that "'connected' and 'coupled' are not restricted to physical or mechanical connections or couplings." *Id.* at 2:22–24. We agree that Petitioner's proposed construction is consistent with the plain and ordinary meaning of the word "coupled" and with the specification, and adopt that construction for purposes of this decision. *See generally Ullstrand v. Coons*, 147 F.2d 698, 700 (CCPA 1945) ("[T]he accepted definition of the term 'connected' is restricted to neither a direct nor an indirect connection, and the term is therefore applicable to an indirect connection . . . ."). As such, we construe "coupled" to mean "connected directly or indirectly."

3. "Middle section"

All claims of the '016 patent recite "a substantially flat middle section" (claim 1) or "a substantially flat, inclined middle section" (claim 20). Ex. 1001, 4:60, 6:22. Petitioner proposes a construction of "middle section" as the "section of the water ride that has at least a portion positioned between the first curved sidewall and the second curved sidewall." Pet. 19. Petitioner adopts this construction from Patent Owner's assertion in the district-court litigation. *Id.* (citing Ex. 1010, 27). We agree that Petitioner's proposed construction is consistent with the specification, which states that a "rider can ride . . . from the first curved sidewall across the middle section to the second curved sidewall." Ex. 1001, 1:34–37. Accordingly, we adopt Petitioner's proposed construction for purposes of this decision, namely "section of the water ride that has at least a portion positioned between the first curved sidewall and the second curved sidewall."

4. "The first curved side"

All claims of the '016 patent recite that the "second curved sidewall" is opposite "the first curved side." Ex. 1001, 4:63–65, 6:25–27. Although the claims do not provide antecedent basis for "the first curved side," Petitioner proposes that the term be construed as "the first curved sidewall." Pet. 20. Petitioner notes that Patent Owner argued in the related district court proceeding that "[i]t is beyond dispute that the claim term 'the first curved side' was intended to be 'the first curved sidewall,' both to comport with all of the disclosures of the '016 Patent and also in accordance with proper antecedent basis." *Id*. (citing Ex. 1010, 28:13–18).

A district court may "correct an error in a patent by interpretation of the patent where no certificate of correction has been issued . . . only if (1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different interpretation of the claims." *Novo Indus., LP v. Micro Molds Corp.*, 350 F.3d 1348, 1354 (Fed. Cir. 2003). We have applied this same standard in our proceedings. *E.g.*, *Apple Inc. v. Achates Reference Publ'g, Inc.*, Case IPR2013-00080, slip op at 10–12 (PTAB June 3, 2013) (Paper 22). Here, we conclude that the claims are properly read such that "first curved side" refers to the "first curved sidewall" and that such correction is not subject to reasonable debate. Neither party has identified how the prosecution history suggests a different interpretation. Thus, we adopt Petitioner's proposed construction for purposes of this decision, namely "first curved sidewall."

5. Additional terms

Although Petitioner proposes no other terms be construed, we have identified two terms that may impact our ultimate determinations: "additional water" in claim 6; and "curved about an axis parallel to water flow" in claim 9.

The specification does not appear to define "additional water" and states only that "[i]n some embodiments, water can also flow from top portions 36 of each sidewall 32." Ex. 1001, 3:24–26. Based on the language of claims 1 and 6, we preliminary construe "additional water" as water other than that delivered by the water delivery section.

The specification also does not appear to define "curved about an axis parallel to water flow" and states only that "[t]he sidewalls 32 can be curved about an axis that is parallel to water flow in the half-pipe water ride 10." *Id.* at 3:20–22. Based on the language of claim 9 and the specification, we preliminarily construe "curved about an axis parallel to water flow" as curved, at some point, about an axis parallel to the flow of water at any point on the activity section.

B. ANTICIPATION BY LOCHTEFELD 589

Petitioner asserts that claims 1–6, 8, 9, 11, 12, 15–17, 19, and 20 of the '016 patent are anticipated by Lochtefeld 589. Pet. 20–37. Petitioner submits that Lochtefeld 589 discloses each of the limitations in the challenged claims. Pet. 20–37. Petitioner relies on Lochtefeld 589 (Ex. 1003) and the Declaration of Edward Pribonic (Ex. 1002).

Having reviewed Petitioner's contentions and supporting evidence, we are persuaded Petitioner has demonstrated a reasonable likelihood of prevailing on its anticipation assertion for claims 1 and 20. We begin our

analysis with a brief summary of Lochtefeld 589, and then address Petitioner's contentions in turn.

1. Summary of Lochtefeld 589

Lochtefeld 589 describes a simulated-wave water-ride attraction with a number of features and embodiments. Lochtefeld 589, 1:12–19. To meet the goal of providing a compact structure that facilitates transport, Lochtefeld 589 describes a cover for its nozzle assemblies "for ensuring the safety of riders in the absence of an extended transition surface." *Id.* at 2:12–14.

Lochtefeld 589's Figure 4A is reproduced below:

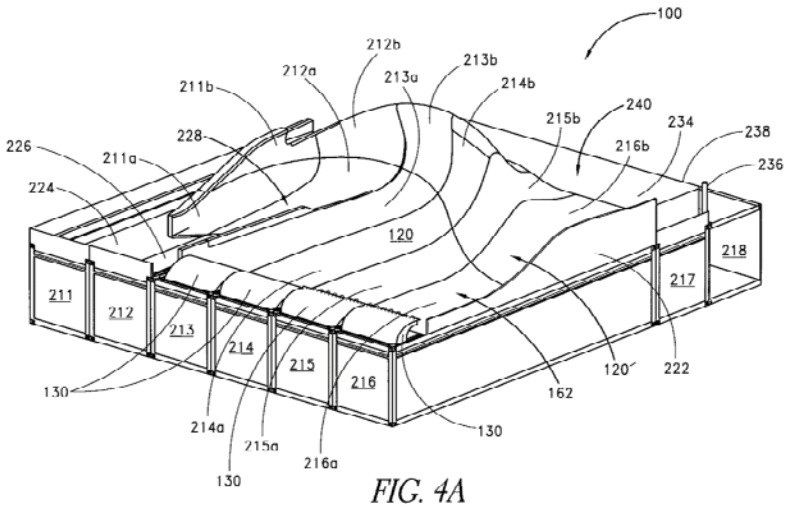


FIG. 4A

Figure 4A of Lochtefeld 589 depicts a water ride in which nozzles (130) along one side of the ride deliver water across a generally flat portion (162) to a sloped, curving portion comprising a number of ride surfaces (211a/b–216a/b) and to a beaching area (240) comprising a grate or drain. *See* Ex. 1003, 12:53–15:5.

2. Analysis

Petitioner points out that Lochtefeld 589 discloses "a simulated-wave water ride attraction" and therefore satisfies the preamble of independent claims 1 and 20, which recites "a water ride for use by a rider." Pet. 20 (citing Ex. 1003, [57]). Petitioner maps the claimed "activity section including a substantially flat middle section, a first curved sidewall extending substantially upwardly from an edge of the middle section, and a second curved sidewall extending substantially upwardly from another edge of the middle section opposite the first curved side" to the portion Lochtefeld 589 depicts in Figure 4A between the nozzles and the peak of the curved wall to which the nozzles supply water. Pet. 20–23 (citing Ex. 1003, 12:53–56, Fig. 4A; Ex. 1011; Ex. 1012, 10). Regarding the two claimed sidewalls, Petitioner identifies portions of the activity area in an annotated version of Lochtefeld 589's Figure 4A. That annotated figure is reproduced below:

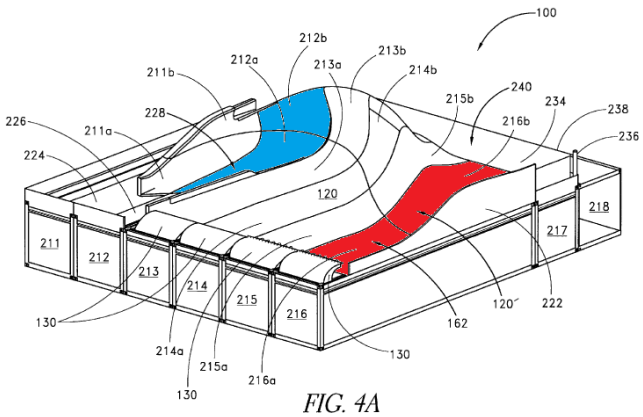


FIG. 4A

Pet. 22. The annotated Figure 4A provided by Petitioner depicts the water ride of Lochtefeld 589 as shown in Figure 4A, with portions 212a and 212b colored blue, and portions 216a and 216b colored red. *Id.* This mapping is consistent with the claim construction we adopt above, which requires that the second sidewall be "on the other side from" the first sidewall. *See supra*

at 10; Pet. 22–23. Additionally, we agree with Petitioner that the identified sidewalls extend substantially upwardly because the first sidewall and the second sidewall each have a portion that rises up from the plane of the middle portion. *See* Pet. at 22. Thus, for purposes of this decision, we agree that Lochtefeld 589 teaches the claimed activity section.

Regarding the "water delivery section coupled to a side of the middle section" including "at least one nozzle configured and arranged to deliver water up the entire length of the middle section" limitation of claim 20, Petitioner identifies the nozzles 130 in Figure 4A. Pet. 23–25 (citing Ex. 1003, 13:25–28, Figs. 4A, 6A, 6B). Having considered the evidence of record and for purposes of this decision, we agree that Lochtefeld 589 teaches the claimed water-delivery section.

As to the claimed "dewatering section coupled to another side of the middle section opposite the water delivery section and located at an elevation higher than the water delivery section" limitation, Petitioner identifies Lochtefeld 589's "grate or drain 234." Pet. 25 (citing Ex. 1003, 14:64–15:5, Fig. 4A). Having considered the evidence of record and for purposes of this decision, we agree that Lochtefeld 589 teaches the claimed dewatering section.

For the claimed "rider exit located adjacent the water delivery section" limitation, Petitioner identifies Lochtefeld 589's "slide-over sluice cover [that] advantageously enables riders to safely slide over the sluice gate and/or injection nozzle without risk of injury or interference with ride operation." Pet. 25–27 (citing Ex. 1003, [57], 10:19–30); Ex. 1002 ¶ 49). We note further that Lochtefeld 589 states that Figures 4A–4D and 5A–4C depict embodiments that preferably comprise "a plurality of nozzle

assemblies 188, as illustrated in FIGS. 3A–3D, with each including a slide-over sluice cover 150 and a padded fixed decking 190." Ex. 12:28–36. Having considered the evidence of record and for purposes of this decision, we agree that Lochtefeld 589 teaches the claimed rider exit. *See Krippelz v. Ford Motor Co*., 667 F.3d 1261, 1267–68 (Fed. Cir. 2012) (holding that a district court erred by not granting JMOL of anticipation where the specification disclosed that certain features could be part of the embodiment asserted in an anticipation challenge).

We have reviewed Petitioner's arguments regarding independent claims 1 and 20. On the present record, Petitioner has shown sufficiently that Lochtefeld 589 teaches all of the limitations of claims 1 and 20. Pet. 20–37. Accordingly, the information presented shows a reasonable likelihood that Petitioner would prevail in establishing that claims 1 and 20 would have been anticipated by Lochtefeld 589.

Having decided that Lochtefeld 589 supports a reasonable likelihood that at least one of the challenged claims is unpatentable as anticipated, we exercise our discretion under 37 C.F.R. § 42.108 to have the review proceed on all challenged claims within this ground—claims 1–6, 8, 9, 11, 12, 15–17, 19, and 20. In doing so, we seek to achieve finality of review at the Board and avoid parallel or serial review in the district court, at least with respect to the petitioner and grounds in this proceeding. *See Synopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309, 1316 (Fed. Cir. 2016) ("The validity of claims for which the Board did not institute *inter partes* review can still be litigated in district court.").

C. OBVIOUSNESS OVER LOCHTEFELD 589

In addition to the ground based on anticipation by Lochtefeld 589, Petitioner argues in the alternative that claims 1–20 are unpatentable as obvious over Lochtefeld 589, raising obviousness arguments regarding one limitation common to claims 1 and 20, and the additional limitations in dependent claims 7, 10, 11, 13, 14, and 18. Pet. 20–37. Petitioner relies on Lochtefeld 589 (Ex. 1003) and the Declaration of Mr. Pribonic (Ex. 1002).[7] Having reviewed Petitioner's contentions and supporting evidence, we are persuaded Petitioner has demonstrated a reasonable likelihood of prevailing on its obviousness assertions for claims 1 and 20 based on Lochtefeld 589.

1. The level of ordinary skill in the art

Petitioner asserts that the applicable person of ordinary skill in the art is "a person with skill in designing, manufacturing, or refurbishing surfing simulation water rides." Pet. 17. Petitioner's expert declarant applies that definition in his analysis. Ex. 1002 ¶ 17. We adopt that definition for the purposes of this decision and also note that the teachings of the prior art presented in the Petition reflect that level of skill. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

2. Analysis

We discussed *supra* the anticipation contentions provided for independent claims 1 and 20. Petitioner's arguments for unpatentability of

[7] At this stage, Patent Owner has not provided evidence supporting secondary considerations of nonobviousness, or argued that such considerations weigh against institution. Thus, we base our analysis on the other factual considerations discussed above.

claims 1 and 20 for obviousness in light of Lochtefeld 589 alone largely track those for the anticipation ground discussed above. The notable difference relates to the final claim limitation: "a rider exit located adjacent the water delivery section." For that limitation, Petitioner recognizes that Lochtefeld 589 details the nozzle cover discussed above in Fig. 3A, and Petitioner asserts that "it would have been obvious to employ the disclosed nozzle cover with the embodiment of Fig. 4A, as it would be a method of ensuring safety during use in accordance with the teachings of Lochtefeld 589." Pet. 26 (citing Ex. 1002 ¶ 50). Petitioner further asserts that "a person of ordinary skill in the art would likely use multiple exits . . . to ensure rider safety by allowing a rider to exit the ride no matter at what part the rider decides to do so." *Id.* at 27 (citing Ex. 1002 ¶ 51).

We have reviewed Petitioner's arguments regarding claims 1 and 20. On the present record, Petitioner has shown sufficiently that Lochtefeld 589 teaches the limitations of claims 1 and 20, and Petitioner has articulated sufficient reasoning with rational underpinning for using those teachings as claimed. Pet. 26–27. As with the anticipation ground above, we note further that Lochtefeld 589 states that Figures 4A–4D and 5A–4C depict embodiments that preferably comprise "a plurality of nozzle assemblies 188, as illustrated in FIGS. 3A–3D, with each including a slide-over sluice cover 150 and a padded fixed decking 190." Ex. 12:28–36. Accordingly, the information presented shows a reasonable likelihood that Petitioner would prevail in establishing that the subject matter of claims 1 and 20 would have been obvious over Lochtefeld 589.

Having decided that Petitioner's arguments and evidence concerning Lochtefeld 589 supports a reasonable likelihood that at least one of the

challenged claims is unpatentable as obvious, we exercise our discretion under 37 C.F.R. § 42.108 to have the review proceed on all of the claims challenged within this ground—claims 1–20.

D. Obviousness Over Lochtefeld 589 and Lochtefeld 590

Petitioner asserts that the subject matter of claims 1–20 would have been obvious to a person or ordinary skill in the art at the time of invention in light of teachings from Lochtefeld 589 and Lochtefeld 590. Pet. 37–47. Petitioner relies on Lochtefeld 589 (Ex. 1003), Lochtefeld 590 (Ex. 1004), and the Declaration of Mr. Pribonic (Ex. 1002).

Having reviewed Petitioner's contentions and supporting evidence, we are persuaded Petitioner has demonstrated a reasonable likelihood of prevailing on its obviousness assertions for claims 1 and 20 based on Lochtefeld 589 and Lochtefeld 590. We begin our analysis with a brief summary of Lochtefeld 590, and then address Petitioner's contentions in turn.

1. Summary of Lochtefeld 590

Lochtefeld 590 discloses a water ride with a "butterfly configuration" in which water is injected by nozzles to flow up an inclined surface, curves outward in both directions as directed by curved sidewalls, and flows back down the outside of the ride. *E.g.*, Ex. 1004, 3:6–15, Fig. 1. Lochtefeld 590's Figure 1 is reproduced below:

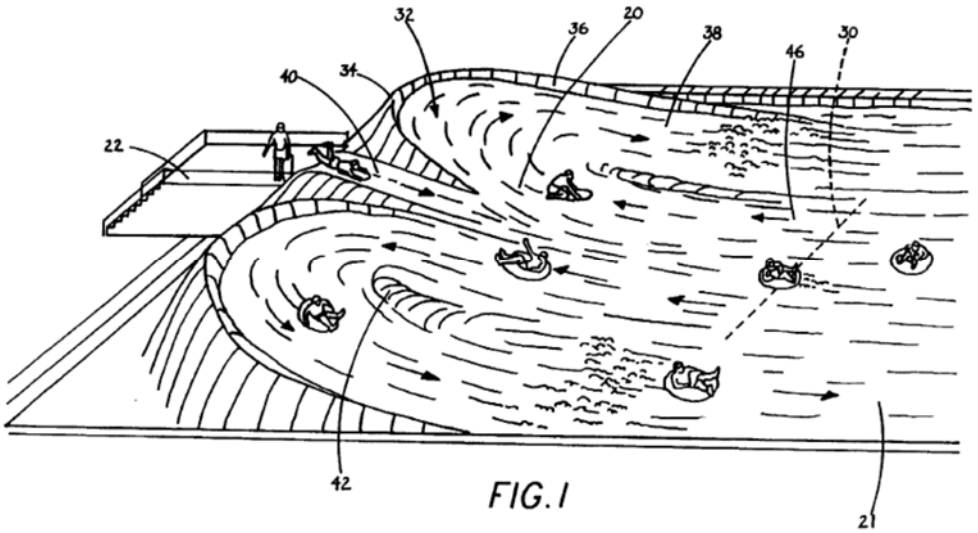


FIG. 1

Lochtefeld 590's Figure 1 depicts a water ride with an inclined surface having a butterfly configuration. Ex. 1004, 7:15–17, Fig. 1. Lochtefeld 590 teaches that "[t]he curvature of the sidewall 36 can also be varied along the outside perimeter of the turn[] to cause various flow effects as the water flowing up the incline moves up and across the sidewalls." *Id.* at 8:30–33.

2. Analysis

We discuss initially the contentions provided for independent claims 1 and 20. Petitioner asserts that a person of skill would have looked to Lochtefeld 590 because: (1) it names the same inventor as Lochtefeld 589 (Pet. 37); (2) "[b]oth references further teach the use of sidewalls to bound the activity sections of their respective disclosures" (*id.* at 37–38); and (3) Lochtefeld 590 teaches that the "curvature of the sidewall 36 can also be varied along the outside perimeters of the turn to cause various flow effects as the water flowing up the incline moves up and across the sidewalls" (*id.* (emphasis omitted) (quoting Ex. 1004, 8:30–34, citing Fig. 1)). Petitioner identifies the sidewalls of Lochtefeld 590 and the teachings that those sidewalls "maintain the water on the ride" and "maintain the rider on the ride

surface 20" (Ex. 1004, 8:27–30), and the passage above describing that varying sidewall curvature achieves desired flow effects (*id.* at 8:30–34), reasoning that the sidewalls curve substantially upward. Pet. 41. For purposes of this decision, Petitioner argues sufficiently that Lochtefeld 590 teaches the claimed sidewalls.

According to Petitioner, a person of ordinary skill would have applied the teachings of Lochtefeld 590 including its curved sidewalls to Lochtefeld 589's ride "to introduce these additional 'flow effects.'" *Id.* at 38 (citing Ex. 1002 ¶¶ 73–74). Petitioner asserts the combination "would be a simple substitution of one known element (two opposite, curved sidewalls from Lochtefeld 590) for another (sidewalls from Lochtefeld 589) to obtain predictable results (additional 'flow effects')." *Id.* at 38–39.

We have reviewed Petitioner's arguments regarding claims 1 and 20. On the present record, Petitioner has shown sufficiently that the combination of Lochtefeld 589 and Lochtefeld 590 teaches all of the limitations of claims 1 and 20, and Petitioner has articulated sufficient reasoning with rational underpinning for combining the teachings of Lochtefeld 589 and Lochtefeld 590. Pet. 37–42. Specifically, Petitioner has established that it would have been obvious to one of skill in the art to combine the curved sidewalls from Lochtefeld 590 with the water ride of Lochtefeld 589, as this represents taking a technique known to improve one device and using it to improve a similar device in the same way. *See KSR*, 550 U.S. at 417. Using the curved sidewalls of Lochtefeld 590 in place of the sidewalls of Lochtefeld 589 also would have been a simple substitution of one known element for another. *See id.*

Accordingly, the information presented shows a reasonable likelihood that Petitioner would prevail in establishing that the subject matter of claims 1 and 20 would have been obvious over Lochtefeld 589 and Lochtefeld 590.

Having decided that Petitioner's proffered arguments and evidence supports a reasonable likelihood that at least one of the challenged claims is unpatentable as obvious over Lochtefeld 589 and Lochtefeld 590, we exercise our discretion under 37 C.F.R. § 42.108 to have the review proceed on all of the claims challenged within this ground—claims 1–20.

E. ANTICIPATION BY LOCHTEFELD 530

Petitioner asserts that Lochtefeld 530 taught the limitations of claims 1–5, 11, 15, 16, 18, and 20. Pet. 47–60. Petitioner relies on Lochtefeld 530 (Ex. 1005) and the Declaration of Mr. Pribonic (Ex. 1002). As discussed above, because some of Petitioner's assertions for those claims do not depend on modifying Lochtefeld 530 or combining it with another reference, we consider the ground to be one of anticipation.

Having reviewed Petitioner's contentions and supporting evidence, we are persuaded Petitioner has demonstrated a reasonable likelihood of prevailing on its anticipation assertion for claims 1 and 20 based on Lochtefeld 530. We begin our analysis with a brief summary of Lochtefeld 530, and then address Petitioner's contentions in turn.

1. Summary of Lochtefeld 530

Lochtefeld 530 discloses a water ride with an inclined ride surface over which nozzles inject a sheet of water to simulate an "ocean surfing experience." Ex. 1005, 4:5–21. Water flows over the top of the surface

where it can drain through a "porous recover floor." *Id.* at 6:12–14. Lochtefeld 530's Figure 1 is reproduced below:

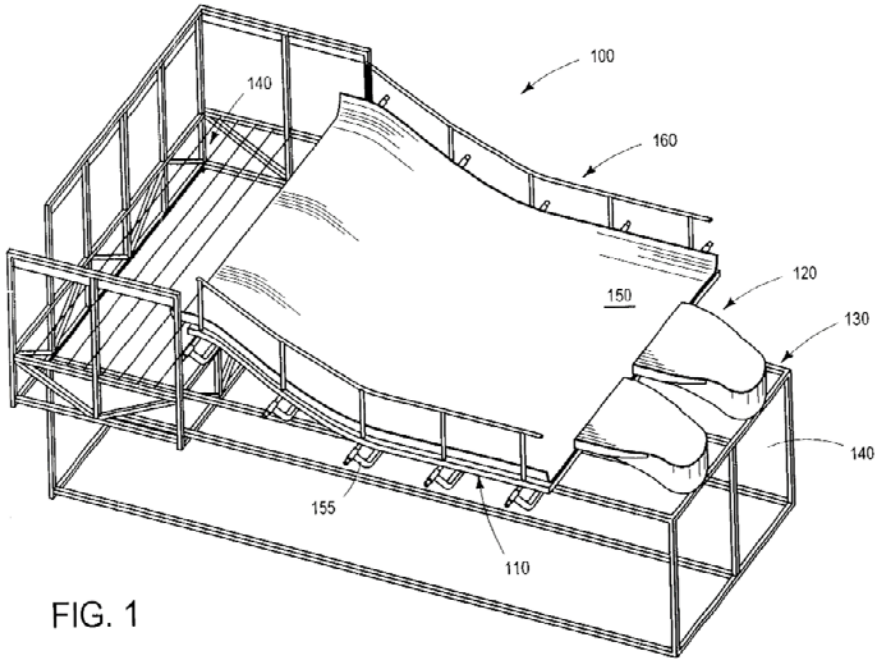


FIG. 1

Figure 1 depicts water ride with inclined ride surface 150, water-injection nozzles 120. Lochtefeld 530's Figure 2A is reproduced below:

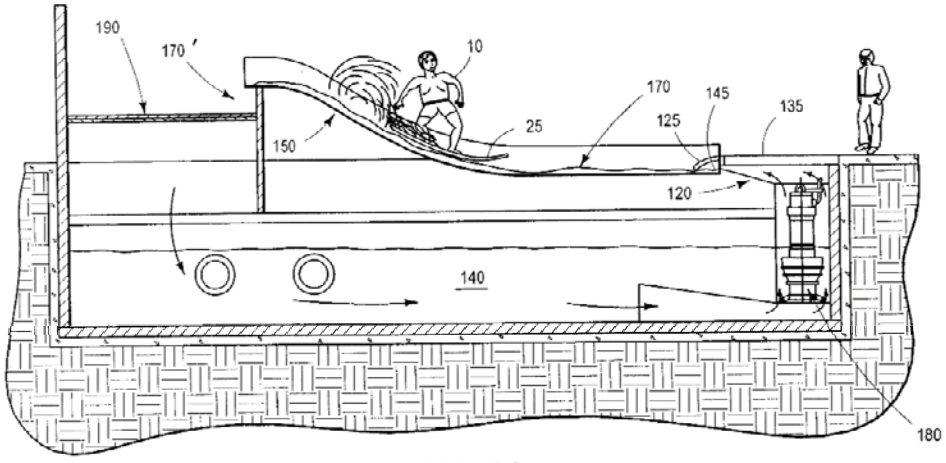


FIG. 2A

Figure 2A depicts a cross section of the water ride of Figure 1, including the porous recovery floor 190 and soft foam sluice cover 125, which Lochtefeld

530 states "may be provided adjacent the lower end of the ride surface 150 over the exit or sluice portion of the nozzle 120 to provide an energy-absorbing and/or slide-over safety structure that protects riders 10 from possibly colliding with the nozzle 120" and "also advantageously provides a short transition surface over the top of which a rider 10 can safely slide and exit the ride." Ex. 1005, 7:17–28.

2. Analysis

We first discuss the contentions provided for independent claims 1 and 20. Petitioner points out that Lochtefeld 530 discloses water rides for use by a rider and therefore satisfies the preamble of claims 1 and 20. Pet. 49 (citing Ex. 1005, 5:38–41, Fig. 2A).

Petitioner maps the claimed "activity section including a substantially flat middle section, a first curved sidewall extending substantially upwardly from an edge of the middle section, and a second curved sidewall extending substantially upwardly from another edge of the middle section opposite the first curved side" to the portion Lochtefeld 530 depicts as the "ride surface" 150 with sidewalls 160. Pet. 49–50 (citing Ex. 1005, Figs. 1, 2A; Ex. 1002 ¶ 104). For purposes of this decision, Petitioner argues sufficiently that Lochtefeld 530 teaches the claimed activity section.

Regarding the "water delivery section coupled to a side of the middle section," including "at least one nozzle configured and arranged to deliver water up the entire length of the middle section" limitation, Petitioner identifies the "high-pressure pumps 180 placed in hydraulic communication with one or more of the water injection nozzles 120" of Lochtefeld 530. Pet. 51–52 (citing Ex. 1005, 5:66–6:2, 6:12–15, Fig. 2A). For purposes of this

decision, Petitioner argues sufficiently that Lochtefeld 530 teaches the claimed water-delivery section.

As to the claimed "dewatering section coupled to another side of the middle section opposite the water delivery section and located at an elevation higher than the water delivery section" limitation, Petitioner identifies Lochtefeld 530's "porous recovery floor 190" coupled to the middle section 150 and draining to the "reservoir 140." Pet. 52 (quoting Ex. 1005, 6:12–18; citing Fig. 2A). For purposes of this decision, Petitioner argues sufficiently that Lochtefeld 530 teaches the claimed dewatering section.

For the claimed "rider exit located adjacent the water delivery section" limitation, Petitioner identifies Lochtefeld 530's "soft foam sluice cover 124 [that] may be provided adjacent the lower end of the ride surface 150 over the exit or sluice portion of the nozzle 120" and the teaching that "[t]he sluice cover 125 also advantageously provides a short transition surface over the top of which a rider 10 can safely slide and exit the ride." Pet. 52–53 (quoting Ex. 1005, 7:17–28, Fig. 2A). For purposes of this decision, Petitioner argues sufficiently that Lochtefeld 530 teaches the claimed rider exit.

We have reviewed Petitioner's arguments and evidence regarding claims 1 and 20. On the present record, Petitioner has shown sufficiently that Lochtefeld 530 teaches the limitations of claims 1 and 20. Pet. 47–53. Accordingly, the information presented shows a reasonable likelihood that Petitioner would prevail in establishing that claims 1 and 20 were anticipated by Lochtefeld 530.

Having decided that the arguments and evidence proffered by Petitioner supports a reasonable likelihood that at least one of the challenged claims is unpatentable as anticipated by Lochtefeld 530, we exercise our discretion under 37 C.F.R. § 42.108 to have the review proceed on all of the claims challenged within this ground—claims 1–5, 11, 15, 16, 18, and 20.

F. OBVIOUSNESS OVER LOCHTEFELD 530 AND LOCHTEFELD 590

Petitioner asserts that the subject matter of claims 1–20 would also have been obvious to a person or ordinary skill in the art at the time of invention in light of teachings from Lochtefeld 530 and Lochtefeld 590. Pet. 47–60. Petitioner relies on Lochtefeld 530 (Ex. 1005), Lochtefeld 590 (Ex. 1004), and the Declaration of Mr. Pribonic (Ex. 1002). Although Petitioner presents this ground in combination with assertions that Lochtefeld 530 alone teaches the limitations of claims 1–5, 11, 15, 16, 18, and 20 (the previously discussed ground), Petitioner relies on Lochtefeld 589 as teaching only one limitation of claims 1 and 20, and the additional limitations in dependent claims 6, 7, 9, and 12–14. Pet. 47–60. Petitioner further asserts that the subject matter of claims 8, 10–14, and 17–19 would have been obvious to a person of ordinary skill in the art in light of the teachings of Lochtefeld 530 or Lochtefeld 590. Pet. 55–59. We first discuss the contentions provided for independent claims 1 and 20.

Petitioner asserts that "[t]o the extent the Board disagrees" that Lochtefeld 530 discloses the claimed sidewalls, "using curved sidewalls was known as shown in Lochtefeld 590, and it would have been obvious to combine Lochtefeld 590 with Lochtefeld 530 to arrive at that limitation." Pet. 50. Specifically, Petitioner argues that Lochtefeld 590 discloses curved sidewalls as described in the ground above based on Lochtefeld 589 and

Lochtefeld 590. *See supra* at 22. Repeating the same reasons as set forth in that ground, Petitioner asserts it would have been obvious to use the curved sidewalls of Lochtefeld 589 with the basic ride of Lochtefeld 530 to cause various flow effects in the water. Pet. 50–51. Further detailing the reasons that a person of skill would have looked to the combined teachings of Lochtefeld 530 and Lochtefeld 590, Petitioner asserts that a person of ordinary skill had reason "to apply Lochtefeld 590's disclosure of curved sidewalls to add curvature to the sidewalls already disclosed in Lochtefeld 530" for the same reason discussed above—"to cause various flow effects as the water flowing up the incline moves up and across the sidewalls." Pet. 47–48 (quoting Ex. 1004, 8:30–34). Petitioner asserts the combination "would be a simple substitution of one known element (curved sidewalls from Lochtefeld 590) for another (sidewalls from Lochtefeld 530) to obtain predictable results (additional 'flow effects')." *Id.* at 48.

We have reviewed Petitioner's arguments regarding claims 1 and 20. On the present record, Petitioner has shown sufficiently that the combination of Lochtefeld 530 and Lochtefeld 590 teaches all of the limitations of claims 1 and 20, and Petitioner has articulated sufficient reasoning with rational underpinning for combining the teachings of Lochtefeld 530 and Lochtefeld 590. Pet. 47–53. Specifically, Petitioner has established that it would have been obvious to one of skill in the art to combine the curved sidewalls from Lochtefeld 590 with the water ride of Lochtefeld 530, as this represents taking a technique known to improve one device and using it to improve a similar device in the same way. *See KSR*, 550 U.S. at 417. Using the curved sidewalls of Lochtefeld 590 in place of the sidewalls of Lochtefeld 530 also would have been a simple substitution of one known

element for another. *See id.* Accordingly, the information presented shows a reasonable likelihood that Petitioner would prevail in establishing that the subject matter of claims 1 and 20 would have been obvious over Lochtefeld 530 and Lochtefeld 590.

Having decided that Petitioner's arguments and evidence supports a reasonable likelihood that at least one of the challenged claims is unpatentable as obvious over Lochtefeld 530 and Lochtefeld 590, we exercise our discretion under 37 C.F.R. § 42.108 to have the review proceed on all of the claims challenged within this ground—claims 1–20.[8]

III. CONCLUSION

For the foregoing reasons, we determine that the information presented in the Petition establishes a reasonable likelihood that Petitioner would prevail in showing challenged claims 1–20 unpatentable. Any discussion of facts in this decision is made only for the purposes of institution of *inter partes* review and is not dispositive of any issue related to any ground on which we institute review. The Board's final determination with respect the patentability of the challenged claims will be based on the record as fully developed during trial.

[8] Where Petitioner asserts that the subject matter of certain dependent claims would have obvious in light of Lochtefeld 530 without relying on Lochtefeld 590—claims 8, 10–14, and 17–19, as identified above (Pet. 55–59)—we consider this ground to include arguments for single-reference obviousness based on Lochtefeld 530 alone.

IV. ORDER

Accordingly, it is:

ORDERED that *inter partes* review is instituted for the ’016 patent, limited to the following ground of unpatentability:

A. anticipation of claims 1–6, 8, 9, 11, 12, 15–17, 19, and 20 by Lochtefeld 589;

B. obviousness of claims 1–20 over Lochtefeld 589;

C. obviousness of claims 1–20 over Lochtefeld 589 and Lochtefeld 590;

D. anticipation of claims 1–5, 11, 15, 16, 18, and 20 over Lochtefeld 530; and

E. obviousness of claims 1–20 over Lochtefeld 530 and Lochtefeld 590;

FURTHER ORDERED that no other grounds are authorized for *inter partes* review; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of claims 1–20 of the ’016 patent is instituted commencing on the entry date of this decision, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial.

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