

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
for the Federal Circuit**

---

**VALVE CORPORATION,**  
*Appellant*

v.

**IRONBURG INVENTIONS LTD.,**  
*Appellee*

---

2023-1725

---

Appeal from the United States Patent and Trademark  
Office, Patent Trial and Appeal Board in No. IPR2017-  
00858.

---

Decided: April 23, 2025

---

PATRICK A. LUJIN, Shook, Hardy & Bacon, LLP, Kansas  
City, MO, argued for appellant. Also represented by KYLE  
E. FRIESEN, Houston, TX.

GREGORY S. TAMKIN, Dorsey & Whitney LLP, Denver,  
CO, argued for appellee.

---

Before LOURIE, DYK, and PROST, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* DYK.

Opinion concurring in the result filed by *Circuit Judge*  
PROST.

DYK, *Circuit Judge*.

Valve Corporation (“Valve”) appeals a final written decision of the Patent Trial and Appeal Board (“Board”) in inter partes review (“IPR”) 2017-00858. The Board concluded that claims 18, 19, 21, 26, and 29 of U.S. Patent No. 9,289,688 (the “688 patent”) were not shown to be unpatentable as obvious.

In a previous appeal from the same IPR, we affirmed the Board’s determination that independent claim 1 of the ’688 patent was unpatentable as anticipated, and we determined, contrary to the Board, that the Burns reference was prior art. *See Valve Corp. v. Ironburg Inventions Ltd.*, 8 F.4th 1364, 1381 (Fed. Cir. 2021) (*Valve I*). We then remanded the case to the Board to determine whether the dependent claims now at issue were obvious in light of Burns.

On remand, despite our holding that claim 1 was shown to be unpatentable, the Board considered claim 1 to be “at issue” and then apparently determined that the dependent claims were not obvious because claim 1 was not obvious over Burns and another reference, LaCelle. The Board’s approach was inconsistent with our mandate in *Valve I* and our case law on issue preclusion. Under our precedent, the Board was required to recognize claim 1 as unpatentable and then determine whether the dependent claims were patentably indistinct from claim 1.

The Board also erred in failing to resolve factual disputes and consider relevant evidence relating to whether a person of ordinary skill in the art would be motivated to combine Burns with LaCelle for the purposes of the

dependent claims. We vacate and remand the Board’s decision for further proceedings consistent with this opinion.

## BACKGROUND

### I

Ironburg Inventions Ltd. (“Ironburg”) is the owner of the ’688 patent for a hand-held games controller. The patent describes a games controller that “comprises additional controls . . . located on the rear of the controller . . . in a position to be operated by the middle fingers of a user.” ’688 patent, Abstract; *see also id.*, col. 1 l. 64–col. 2 l. 2. On February 7, 2017, Valve petitioned for IPR of claims 1–3, 9, 10, 18–22, and 26–30 of the ’688 patent. In a final written decision, the Board determined that claims 1, 2, 9, 10, 20, 22, 27, 28, and 30 were shown to be unpatentable as anticipated by U.S. Patent Application Publication No. 2015/0238855 (“Uy”) but that dependent claims 18, 19, 21, 26, and 29 were not shown to be unpatentable because one of the pieces of prior art that Valve relied on—Burns<sup>1</sup>—was not prior art. *Valve I*, 8 F.4th at 1368. Both Ironburg and Valve appealed, and we decided that appeal on August 17, 2021.

Three of our holdings from *Valve I* are particularly relevant to the issues here. First, on Ironburg’s appeal, we affirmed the Board’s determination that claim 1 of the ’688 patent was anticipated by Uy. *Valve I*, 8 F.4th at 1379–81. Claim 1 recited a games controller with controls on the back of the controller case:

1. A games controller comprising:  
a case; and

---

<sup>1</sup> Dave Burns, *Review: Scuf Xbox 360 Controller*, <https://www.xboxer360/features/review-scuf-xbox-360-controller/>.

a plurality of controls located on a front end and a top of the case;

the case being shaped to be held in both hands of a user such that the user's thumbs are positioned to operate controls located on the top of the case and the user's index fingers are positioned to operate controls located on the front end of the case; wherein

the games controller further comprises at least one first additional control located on a back of the case in a position operable by a middle, ring or little finger of the user, the first additional control comprising a first elongate member displaceable by the user to activate a control function, wherein the first elongate member comprises a first surface disposed proximate an outer surface of the case and the first elongate member comprises a second surface opposing the first surface, the second surface being configured and arranged to be non-parallel with a portion of the outer surface of the back of the case to which the first elongate member is mounted.

'688 patent, col. 9 ll. 28–48.

Second, on Valve's appeal, we vacated the Board's determination that dependent claims 18, 19, 21, 26, and 29, which depend from claim 1, were not shown to be unpatentable. *Valve I*, 8 F.4th at 1376. We reversed the Board's determination that Burns was not prior art and vacated the Board's determination that these dependent claims were not shown to be unpatentable over Burns. *Id.* at 1372, 1375–76, 1378.

Third, we remanded the case “for the Board to consider Valve’s arguments that relied on [Burns] as to [dependent claims 18, 19, 21, 26, and 29].” *Id.* at 1381; *see also id.* at 1376, 1379.

## II

On remand, Valve continued to argue, as it had in its IPR petition, that claims 18, 19, 21, 26, and 29 of the ’688 patent were obvious over Burns and U.S. Design Patent No. Des. 419,985 (“LaCelle”).<sup>2</sup> Burns is an online article describing an Xbox 360 Controller by Scuf with two paddles on the back of the control pad. LaCelle is a design patent titled “Game Controller,” which depicts different views of a games controller and, in particular, curved features on the back of the controller. The dependent claims at issue on remand from *Valve I* recite:

18. The games controller of claim 1 wherein the first elongate member is formed from material having a thickness less than 5 mm.

19. The games controller of claim 1 wherein the first elongate member is formed from material having a thickness between 1 mm and 3 mm.

21. The games controller of claim 1 comprising two of the first elongate members wherein, the two first elongate members converge towards the front end of the case with respect to one another.

---

<sup>2</sup> Valve also argued that claim 21 was obvious over Burns and the prior art reference Bellinghausen and that claim 26 was obvious over Burns and the prior art reference Knight. In its final written decision, the Board determined that Valve had not shown that claims 21 and 26 were obvious over these prior art combinations. Valve does not challenge those determinations on appeal here.

26. The games controller of claim 1 wherein the first additional control is a paddle lever.

29. The games controller of claim 1 wherein the first elongate member is inherently resilient and flexible so as to be sufficiently displaceable to active the control function.

'688 patent, col. 10 l. 65–col. 12 l. 9.

Despite our holding in *Valve I* that claim 1 was unpatentable, the Board, in its scheduling order on remand, directed the parties to address claim 1, stating:

We note that, because all the claims to be addressed on remand depend directly from claim 1, we expect the parties to address on remand the manner in which the combinations of Burns with the [other prior art references] teach or suggest the limitations recited in claim 1.

*Valve Corp. v. Ironburg Inventions Ltd.*, IPR2017-00858, Paper No. 77, at 3 n.3 (P.T.A.B. Nov. 10, 2021); *see also Valve Corp. v. Ironburg Inventions Ltd.*, IPR2017-00858, Paper No. 87, at 5 n.8 (P.T.A.B. Jan. 26, 2023) (“*Board Remand Decision*”) (similar). Subsequently, in its remand decision (the decision that Valve now appeals), the Board explained that “claim 1 [was] the only independent claim at issue on remand.” *Board Remand Decision* at 9. It then focused its remand decision on “Valve’s showing relating to claim 1 for each of the combinations of Burns with one of the Design References [(Burns, Bellinghausen, or Knight)] as part of the challenge to dependent claims 18, 19, 21, 26, and 29.” *Id.* at 13–14. It concluded that Valve failed to demonstrate by a preponderance of evidence that the challenged dependent claims were unpatentable as obvious over the combination of Burns and LaCelle apparently based on its conclusion that claim 1 was not shown to be unpatentable over the combination. The Board did not

address the specific limitations of the challenged dependent claims.

Valve appeals. We have jurisdiction over the appeal under 28 U.S.C. § 1295(a)(4)(A).

## DISCUSSION

### I

#### A

We first consider the Board’s focus on the patentability of claim 1 and whether this focus was inconsistent with our mandate in *Valve I*.<sup>3</sup> The mandate rule applies in administrative proceedings before the Board. *See, e.g., Atlanta Gas Light Co. v. Bennett Regul. Guards, Inc.*, 33 F.4th 1348, 1355 (Fed. Cir. 2022). “[I]n interpreting this court’s mandate, both the letter and the spirit of the mandate must be considered.” *SUFI Network Servs., Inc. v. United States*, 817 F.3d 773, 779 (Fed. Cir. 2016) (quoting *TecSec*,

---

<sup>3</sup> On remand, neither of the parties sought to apply the mandate rule or any other rule under the law-of-the-case doctrine based on our decision in *Valve I*, and the parties did not press this issue in their briefing on appeal. We requested the parties address these issues at oral argument. *See* ECF No. 54. It is appropriate to consider the mandate rule sua sponte as it is directed at conserving judicial resources and preserving the integrity of our own processes. *United States v. Wallace*, 573 F.3d 82, 90 n.6 (1st Cir. 2009); *see also XY, LLC v. Trans Ova Genetics*, 890 F.3d 1282, 1295 (Fed. Cir. 2018) (holding the court may raise the application of issue preclusion sua sponte where “there is no indication from the Patent Owner that it did not have a full and fair opportunity to litigate the validity of its patent in the parallel [proceeding]”) (citation and quotation marks omitted).

*Inc. v. Int'l Bus. Machs. Corp.*, 731 F.3d 1336, 1341–42 (Fed. Cir. 2013)).

Our decision in *Valve I* affirmed that claim 1 was unpatentable, and the language of the opinion and mandate from *Valve I* required that the Board treat the patentability of claim 1 as no longer “at issue.” *Board Remand Decision* at 9. Our decision in *Valve I*, affirming that claim 1 was shown to be unpatentable, foreclosed consideration of the issue of the patentability of claim 1. *See Atlanta Gas Light*, 33 F.4th at 1355 (explaining unpatentability issues decided on appeal were “locked in on remand by the mandate rule”); *Amado v. Microsoft Corp.*, 517 F.3d 1353, 1364 (Fed. Cir. 2008) (“[T]he mandate rule forecloses reconsideration of issues implicitly or explicitly decided on appeal.”).<sup>4</sup> The Board could only depart from our determination in *Valve I* under exceptional circumstances, none of which is argued to apply here.<sup>5</sup> The Board could not determine that

---

<sup>4</sup> *See also Ormco Corp. v. Align Tech., Inc.*, 498 F.3d 1307, 1319–20 (Fed. Cir. 2007) (concluding that earlier decision finding dependent claims invalid was the law of the case and that broader independent claims must therefore be invalid); *Stearns v. Beckman Instruments, Inc.*, 737 F.2d 1565, 1568 (Fed. Cir. 1984) (explaining issue decided as a matter of law was binding as the law of the case); *Smith Int'l, Inc. v. Hughes Tool Co.*, 759 F.2d 1572, 1577–79 (Fed. Cir. 1985) (noting law of the case applies to invalidity determinations).

<sup>5</sup> *See Gould, Inc. v. United States*, 67 F.3d 925, 930 (Fed. Cir. 1995) (explaining a court must adhere to a decision in a prior appeal unless “(1) the evidence in a subsequent trial is substantially different; (2) controlling authority has since made a contrary decision of the law applicable to the issues; or (3) the earlier ruling was clearly erroneous and would work a manifest injustice”). The



dependent claims 18, 19, 21, 26, and 29 were not shown to be unpatentable because it concluded that claim 1 was not shown to be unpatentable as obvious. As Ironburg recognized, “[t]he Board’s decision with respect to claim 1 resolved Valve’s obviousness challenge of the dependent claims,” but “[t]he Board did not go on to address the limitations of the dependent claims at issue.” Appellee’s Br. 10; *see also id.* at 34 (noting “[t]he Board never specifically addressed any dependent claim[—]beyond the automatic effect of its finding with respect to claim 1”).

## B

On remand, the Board should have first considered whether the dependent claims were patentably indistinct from claim 1. In this respect, our issue preclusion precedent is directly relevant. The mandate rule and issue preclusion share the “fundamental precept of common-law adjudication . . . that an issue once determined by a competent court is conclusive.” *Arizona v. California*, 460 U.S. 605, 619 (1983); *see also Cowgill v. Raymark Indus., Inc.*, 832 F.2d 798, 802 (3d Cir. 1987) (“When the estoppel is operative in proceedings in the same case on remand, courts frequently speak in terms of the law of the mandate . . . rather than collateral estoppel but the underlying principle is the same.”); 3 James W. Moore et al., *Moore’s Manual—Federal Practice and Procedure* § 30.30 (explaining the mandate rule “is similar to issue preclusion”).<sup>6</sup>

---

Board’s statement that claim 1 was at issue on appeal and its direction to the parties to address that claim in remand briefing were thus erroneous.

<sup>6</sup> The application of direct estoppel lends itself to the same result. Direct estoppel precludes relitigation of common issues that have been resolved within a single suit.

As the Supreme Court held in *B & B Hardware, Inc. v. Hargis Industries, Inc.*, issue preclusion applies in the administrative context and in particular to appeals to the Board from the United States Patent and Trademark Office. 575 U.S. 138, 160 (2015). “It is well established that collateral estoppel applies to IPR proceedings.” *Google LLC v. Hammond Dev. Int’l*, 54 F.4th 1377, 1381 (Fed. Cir. 2022). This preclusive effect not only applies to claims adjudicated by the Board to be unpatentable but also to “related claims that present identical issues of patentability.” *MaxLinear, Inc. v. CF CREPES LLC*, 880 F.3d 1373, 1377 (Fed. Cir. 2018); *see also Google*, 54 F.4th at 1381 (“[C]ollateral estoppel may apply even if the patent claims use slightly different language to describe substantially the same invention.”) (citation and internal quotation marks omitted); *Ohio Willow Wood Co. v. Alps S., LLC*, 735 F.3d 1333, 1342 (Fed. Cir. 2013) (“Our precedent does not limit collateral estoppel to patent claims that are identical.”). If the unadjudicated patent claims do not “present materially different issues that alter the question of patentability,” they are said to be “patentably [in]distinct” from the

---

*Cotton v. Heyman*, 63 F.3d 1115, 1118 n.1 (D.C. Cir. 1995) (“Direct estoppel, as opposed to collateral estoppel, governs the preclusive effect of a litigated issue in a separate proceeding within a single suit.”); *see also* 18 C. Wright, A. Miller & E. Cooper, *Federal Practice and Procedure* § 4418. Whether the estoppel is called collateral or direct, the analysis and application of issue preclusion “remains the same.” *DuChateau v. Camp, Dresser & McKee, Inc.*, 713 F.3d 1298, 1303 (11th Cir. 2013) (citation and internal quotation marks omitted); *see also Taylor v. Sturgell*, 553 U.S. 880, 892 n.5 (2008) (“[I]ssue preclusion encompasses the doctrines once known as ‘collateral estoppel’ and ‘direct estoppel.’”).

adjudicated claims, and issue preclusion applies. *MaxLinear*, 880 F.3d at 1377–78; *Ohio Willow Wood*, 735 F.3d at 1342 (“If the differences between the unadjudicated patent claims and adjudicated patent claims do not materially alter the question of invalidity, [issue preclusion] applies.”).<sup>7</sup>

We have applied this principle to dependent claims where independent claims have been demonstrated to be unpatentable. For example, in *MaxLinear*, we affirmed that independent method and device claims concerning a television receiver were unpatentable and then remanded the case for the Board to consider whether dependent claims were patentably distinct from the independent claims. 880 F.3d at 1377; see also *Soverain Software LLC v. Victoria’s Secret Direct Brand Mgmt., LLC*, 778 F.3d 1311, 1319–20 (Fed. Cir. 2015) (concluding “routine incorporation of Internet technology into existing processes” did not “materially alter the question of [in]validity” of a dependent claim from a previously invalidated independent claim). We have also applied the patentably distinct principle in a similar posture as here where a case was remanded and returned on appeal. See *Ormco Corp.*, 498 F.3d at 1319–20 (affirming the district court’s determination that certain dependent claims of a patent were

---

<sup>7</sup> See also *Westwood Chem., Inc. v. United States*, 525 F.2d 1367, 1375 (Ct. Cl. 1975) (“[T]he inquiry should be whether the nonlitigated claims present new issues as to the art pertinent to the nonlitigated claims; as to the scope and content of that art; as to the differences between the prior art and the nonlitigated claims; and as to the level of ordinary skill in that art.”); *Bourns, Inc. v. United States*, 537 F.2d 486, 494 (Ct. Cl. 1976) (per curiam) (“[T]he practicalities are to look to the distinguishing features incorporated into the claims and the validity determination necessarily focuses on those features.”).

invalid as obvious because the difference between those claims and the invalidated claims of a related patent “was not patentably significant”).

Accordingly, we remand for the Board to address whether Valve has shown that the challenged dependent claims are patentably distinct from claim 1.

## II

If this case is not resolved on the grounds of collateral estoppel, the Board must separately address the patentability of dependent claims 18, 19, 21, 26, and 29. Under this analysis, we conclude that the Board’s decision determining that there was a lack of motivation to combine Burns and LaCelle was not supported by substantial evidence.

Obviousness is a question of law based on underlying findings of fact. *Uber Techs., Inc. v. X One, Inc.*, 957 F.3d 1334, 1337 (Fed. Cir. 2020). We review the Board’s factual findings for substantial evidence and review its legal conclusions de novo. *Id.*

In its IPR petition, Valve argued that a person of ordinary skill in the art would be motivated to combine Burns and LaCelle for the following reasons:

(1) both references disclose hand-held game[s] controllers having front controls operated by a user’s thumbs and rear controls operated by fingers other than the thumb, (2) the LaCelle reference advantageously suggests an alternative rear control geometry for Burns, e.g. to give the distal ends of the back paddles of Burns the curved (i.e. “non-parallel”) outer shape of the back buttons of LaCelle, and (3) changing the outer shape of the distal ends of the Burns’ elongate members (e.g. to have the curved outer shape of the back buttons of LaCelle)

would have been expected to be readily practical and successful in this simple and predictable art, and the results would not have been unexpected.

J.A. 79 (citation omitted). In the context of independent claim 1, Valve thus relied on LaCelle as showing the structure of a curved back control and that a person of ordinary skill in the art would be motivated by this factor to combine Burns with LaCelle.

The Board recognized that the technology is simple and straightforward and that the level of skill required was relatively low and did not require a college education. *See Board Remand Decision* at 12–13. There was also no dispute that, as set forth in Valve’s petition, Burns and LaCelle disclose similar controllers because they both disclose hand-held games controllers with controls in similar positions at least on the top and front part of the games controller case and that these controls would be operated by the same fingers. There was also no dispute that Burns, as shown in the figure below, discloses additional controls on the back of the games controller in a position operable by the user’s unused middle fingers:

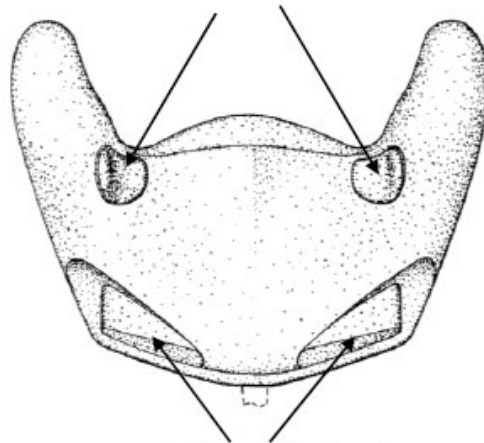


J.A. 83 (Burns Games Controller with Valve's annotations); *see also* J.A. 1261.

Nonetheless, the Board determined that Valve's petition evidence on the motivation to combine was conclusory and did not provide "sufficient reasoning or objective evidence to demonstrate a reasonable likelihood of establishing that an ordinarily skilled artisan would have found it obvious to combine the elements from the prior art to arrive at the claimed controllers." *Board Remand Decision* at 17–18; *see also id.* at 14–15.

The problem is that the Board did not address three factual issues that also bear on the motivation to combine Burns and LaCelle. First, in its Remand Decision, it did not resolve whether LaCelle discloses controls on the back of the games controller similar to Burns such that a person of ordinary skill in the art would be motivated to combine the two references. Supported by the testimony of its expert Dr. Rempel, Valve urged that certain "features" on the back of the LaCelle games controller were controls:

additional controls on the back of the case, in positions operable by a middle, ring or little finger of the user



controls on the front end of the case

J.A. 82 (LaCelle games controller with Valve’s annotations); *see also* J.A. 1272; J.A. 1295 ¶¶ 27–30. Ironburg’s expert, Dr. Stevick, disagreed, testifying that these features were not necessarily controls, opining that these features or components “could represent (1) surface contours, (2) cushioned or rubberized surfaces for improved user comfort, (3) compartments for batteries, or (4) decorative features to conceal assembly junctions.”<sup>8</sup> J.A. 3424–25 ¶¶ 28–29. In his declaration in support of Valve’s supplemental reply, Dr. Rempel testified, in reference to the features on the back of the LaCelle games controller and Dr. Stevick’s testimony, that while the rubberized surfaces “could be recognized as a possibility,” the other alternatives were “unlikely based on the appearance of the drawing features” and at any rate, the features “would primarily and certainly suggest functional controls” based on “their location and appearance.” J.A. 1517 ¶ 12.

Second, and even more significantly, the Board failed to recognize the evidence that LaCelle teaches that features on the back of the games controller are curved. Valve argued that LaCelle “advantageously suggests an alternative rear control geometry for Burns, e.g. to give the distal ends of the back paddles of Burns the curved (i.e., ‘non-parallel’) outer shape of the back buttons of LaCelle,” and further identified that non-parallel shape in LaCelle. J.A. 79, 91; *see also* J.A. 1295 ¶ 27, 1296–97 ¶¶ 29–30. Before the Board, Ironburg’s expert did not appear to dispute this curved shape, arguing only that the features might not be controls. *See* J.A. 3424–25 ¶¶ 28–29.

---

<sup>8</sup> On appeal, Ironburg characterizes the features on the back of the LaCelle controller as a “cloud of dots.” Appellee’s Br. 15, 40. The experts, however, did not testify that these features were clouds of dots. J.A. 1295 ¶¶ 27–30; J.A. 3425 ¶ 29.

Third, the Board erred by declining to consider Valve’s supplemental reply argument, supported by the testimony of Dr. Rempel, that a person of ordinary skill would have combined LaCelle and Burns because the skilled artisan “would recognize that the predictable result of the combination – a back paddle having an end that is curved like that of LaCelle – could have better coupling with the user’s finger than the flat paddles that are otherwise disclosed by Burns.” J.A. 1530 ¶ 39; *see also* J.A. 516–17. The Board excluded that evidence as improper gap-filling that exceeded the scope of 37 C.F.R. § 42.23(b).

“The Board’s determination that a party exceeded the scope of a proper reply [is] reviewed for abuse of discretion.” *Apple Inc. v. Andrea Elecs. Corp.*, 949 F.3d 697, 705 (Fed. Cir. 2020). The relevant rule, 37 C.F.R. § 42.23(b), provides that “[a] reply may only respond to arguments raised in the corresponding opposition, patent owner preliminary response, patent owner response, or decision on institution.” *See also Axonics, Inc. v. Medtronic, Inc.*, 75 F.4th 1374, 1380 (Fed. Cir. 2023). “This regulation means that an IPR petitioner may not raise in reply an entirely new rationale not raised in its petition or responsive to arguments raised in the patent owner’s response brief.” *Yita LLC v. MacNeil IP LLC*, 69 F.4th 1356, 1366 (Fed. Cir. 2023) (citations and internal quotation marks omitted). But we have also held that reply evidence that does not offer a new legal ground, but instead conforms to the theories raised in the petition, may be properly considered in reply. *Apple*, 949 F.3d at 706–7 (finding an abuse of discretion to reject reply evidence that did not change from the legal ground in the petition).<sup>9</sup>

---

<sup>9</sup> *See also Corephotonics, Ltd. v. Apple Inc.*, 84 F.4th 990, 1008–09 (Fed. Cir. 2023) (“[T]here is no blanket



Here, the petition proposed a person of ordinary skill in the art would be motivated to combine Burns and LaCelle because both references disclose hand-held games controllers with similar controls that are used with the same fingers and that LaCelle “advantageously suggests an alternative rear control geometry for Burns, e.g. to give the distal ends of the back paddles of Burns the curved (i.e. ‘non-parallel’) outer shape of the back buttons of LaCelle.” J.A. 79. The supplemental reply evidence simply explained the motivation set forth in the petition. The reply did not offer entirely new motivations to combine or new theories of unpatentability. Instead, the advantage it provided was still tied to the curved, alternative geometry of the back control supplied in the petition. It was thus error for the Board to decline to consider the reply argument on combining the references.

The Board further determined that this evidence was in any case insufficient as Valve’s expert only articulated that modifying Burns in view of LaCelle “could” improve, but not “would” improve Burns, and thus “allowe[d] that Burns would not be improved.” *Board Remand Decision* at 17. The Board, however, ignored the expert’s testimony that a person of ordinary skill in the art “*would* have combined LaCelle and Burns” and “would recognize that the predictable result of the combination – a back paddle

---

prohibition against the introduction of new evidence during an IPR’ provided it is an ‘expansion on and fair extension of a previously raised argument’ and has a ‘nexus’ (and is therefore responsive) to an argument made by the patent owner or the Board.”) (quoting *Rembrandt Diagnostics, LP v. Alere, Inc.*, 76 F.4th 1376, 1384–85 (Fed. Cir. 2023) (cleaned up); *Chamberlain Grp., Inc. v. One World Techs., Inc.*, 944 F.3d 919, 924–25 (Fed. Cir. 2019) (holding that the Board erred in not considering evidence raised in oral hearing that merely clarified party’s previous position).

having an end that is curved like that of LaCelle – could have better coupling with the user’s finger.” J.A. 1530 ¶ 39 (second and third emphasis added); J.A. 1295 ¶ 27 (Valve’s expert opining that “one of ordinary skill in the art in April 2014 would have been motivated to combine Burns and LaCelle . . .”). Moreover, “[o]bviousness does not require absolute predictability of success.” *In re O’Farrell*, 853 F.2d 894, 903 (Fed. Cir. 1988). The proper inquiry is whether a person of ordinary skill in the art would have been motivated to combine Burns and LaCelle, not whether the combination would with absolute certainty result in the desired outcome. The Board thus erred in failing to consider the reply evidence.

#### CONCLUSION

We vacate the *Board Remand Decision* and remand for the Board to determine the patentability of the dependent claims consistent with this opinion.

#### VACATED AND REMANDED

#### COSTS

No costs.

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
for the Federal Circuit**

---

**VALVE CORPORATION,**  
*Appellant*

v.

**IRONBURG INVENTIONS LTD.,**  
*Appellee*

---

2023-1725

---

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2017-00858.

---

PROST, *Circuit Judge*, concurring in the result.

I join Part II of the majority’s opinion beginning with the following sentence: “Under this analysis, we conclude that the Board’s decision determining that there was a lack of motivation to combine Burns and LaCelle was not supported by substantial evidence.” Maj. 12. Patentability over Burns and LaCelle was the only issue that the parties briefed to us. And I agree with the majority’s analysis of this issue, which suffices to resolve this appeal.

Respectfully, I cannot join Part I of the majority’s opinion. The majority concludes in Part I that (1) the Board

violated our mandate in *Valve I*, and (2) collateral estoppel required the Board—and requires it now—to conduct a “patentably distinct” analysis as to certain claims. I disagree that the Board violated our mandate. And I am disinclined to reach issues of collateral estoppel here. Those issues are complicated, they were not briefed, and their consideration is unnecessary to this appeal’s resolution.

As to the mandate, the majority concludes that the Board re-evaluated claim 1’s patentability, thus violating our mandate in *Valve I*, which had affirmed that claim 1 was unpatentable. *See, e.g.*, Maj. 8 (“Our decision in *Valve I* affirmed that claim 1 was unpatentable, and the language of the opinion and mandate from *Valve I* required that the Board treat the patentability of claim 1 as no longer ‘at issue.’” (quoting *Board Remand Decision*, at 9)); *id.* at 7 (suggesting that the Board “focus[ed] on the patentability of claim 1”).

I do not read the Board’s decision as having put claim 1’s patentability at issue. Throughout its decision, the Board repeatedly understood the issue before it to be whether the dependent claims are patentable—not claim 1. *See Board Remand Decision*, at 5 (showing a table of the remaining claims at issue to be claims 18, 19, 21, 26, and 29 in view of Burns and another prior-art reference); *id.* at 13, 19–20.

Although the Board referenced claim 1, it did so simply because claim 1’s elements are necessarily a part of any claims that depend from claim 1. *See id.* at 5 n.8, 9, 13–14. And in an IPR, the Board must consider claims based on the arguments drafted in the petition, including the petitioner’s alleged motivation to combine prior-art references. If those motivations are based on reasons associated with the elements of an independent claim (or even if they just happen to be articulated in the context of such a claim), those motivations may still support combining the references in the context of dependent claims. Indeed, the

majority appears to agree that reviewing the motivations to combine in the context of claim 1 is permissible if the Board proceeds past the majority's collateral-estoppel analysis. See Maj. 13 (“*In the context of independent claim 1, Valve thus relied on LaCelle as showing the structure of a curved back control and that a person of ordinary skill in the art would be motivated by this factor to combine Burns with LaCelle.*” (emphasis added)). Therefore, I see no error in the Board's references to claim 1, let alone a violation of our mandate in *Valve I*.

As to collateral estoppel, I question the wisdom of invoking the doctrine here, where the issue was not briefed and where its consideration is unnecessary to our resolution of this appeal (which can rest alone on Part II of the majority's opinion related to motivation to combine). While I recognize collateral estoppel may, under appropriate circumstances, be raised sua sponte, I disagree this is an appropriate case in which to do so. The majority's invocation of collateral estoppel raises a number of important questions, including which issues of “patentable distinctness” are legal versus factual and how to resolve these issues on a closed record (particularly in this IPR context, where the Board is confined to addressing the arguments contained in the petition).<sup>1</sup> Respectfully, I would save these questions for another day.

---

<sup>1</sup> To the extent the majority is suggesting merely that petitioners and the Board should evaluate whether claims are patentably distinct in the course of their unpatentability analyses, I do not disagree. I assume that this is typically done implicitly or explicitly when petitioners articulate their arguments with respect to dependent claims in their petitions (and when the Board ultimately analyzes the claims' unpatentability in view of those arguments).