

United States Court of Appeals for the Federal Circuit

XY, LLC,
Plaintiff-Cross-Appellant

v.

TRANS OVA GENETICS, L.C.,
Defendant-Appellant

2016-2054, 2016-2136

Appeals from the United States District Court for the District of Colorado in No. 1:13-cv-00876-WJM-NYW, Judge William J. Martinez.

Decided: May 23, 2018

PRATIK A. SHAH, Akin, Gump, Strauss, Hauer & Feld, LLP, Washington, DC, argued for plaintiff-cross-appellant. Also represented by ZE-WEN JULIUS CHEN; DANIEL LYNN MOFFETT, KIRT S. O'NEILL, San Antonio, TX.

CHARLES DANIEL OSSOLA, Hunton & Williams LLP, Washington, DC, argued for defendant-appellant. Also represented by DAVID A. KELLY, Atlanta, GA; DONALD EARL LAKE, III, GEORGE GUY MATAVA, SAMANTHA KAY PICANS, Lewis Brisbois Bisgaard & Smith, Denver, CO.

Before NEWMAN, DYK and CHEN, *Circuit Judges*.

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

Opinion concurring-in-part, dissenting-in-part filed by
Circuit Judge NEWMAN.

CHEN, *Circuit Judge*.

Plaintiff-Cross-Appellant XY, LLC (XY) sued Defendant-Appellant Trans Ova Genetics, L.C. (Trans Ova) for patent infringement and breach of contract. Trans Ova counterclaimed, alleging patent invalidity, breach of contract, and antitrust violations. The district court granted summary judgment in favor of XY on Trans Ova's antitrust counterclaims. A jury found breaches of contract by both parties and awarded damages. The jury also found that (i) Trans Ova failed to prove that the asserted patent claims were invalid, (ii) Trans Ova willfully infringed the asserted claims, and (iii) XY was entitled to damages for patent infringement. The parties filed various post-trial motions. The district court denied all of Trans Ova's requested relief on the antitrust, breach of contract, invalidity, and willfulness issues and granted XY's request for an ongoing royalty. Trans Ova appeals the district court's antitrust, breach of contract, invalidity, and willfulness rulings. XY appeals the ongoing royalty rate adopted by the district court.

We affirm in part, vacate in part, and remand. Two issues presented on appeal are moot. With respect to the remaining issues, we affirm on all issues except the district court's ongoing royalty rate, which we vacate. We remand for the district court to recalculate an ongoing royalty rate in accordance with this opinion.

BACKGROUND

I. Technological Background

XY's patents relate to the sorting of X- and Y-chromosome-bearing sperm cells, which can be used for

selective breeding purposes. Some of the asserted patent claims require the use of “flow cytometry,” a process by which cells flow through a flow cytometer at a high rate of speed in a fluid stream and “are evaluated at several thousands of [cells] per second.” J.A. 8346–47.

Dr. Lawrence Johnson developed a technique for sorting animal semen using flow cytometry in the 1980s as part of research sponsored by the United States Department of Agriculture (USDA). Dr. Johnson’s technique is patented in U.S. Patent No. 5,135,759 (the Johnson Patent), which issued in 1992. The Johnson Patent was initially licensed to XY under a USDA partnership program. The Johnson method involves staining DNA in sperm cells with a dye; using a laser beam to activate the fluorescence of the dye (with X-chromosome cells being brighter because they contain more DNA than Y-chromosome cells); detecting the amount of fluorescence in the cells; and sorting the cells into separate containers for X and Y cells.

Six of XY’s patents are at issue in this appeal. They can be grouped into four categories: (1) the “Fluid Patents” (U.S. Patent Nos. 6,149,867 and 6,524,860); (2) the “Freezing Patent” (U.S. Patent No. 7,820,425); (3) the “In-Vitro Fertilization Patent” (U.S. Patent No. 8,569,053); and (4) the “Reverse Sort Patents”¹ (U.S. Patent Nos. 7,713,687 and 7,771,921).

¹ The Reverse Sort Patents involve a sorting process that reverses the order of steps recited in the sorting process described in the Freezing Patent. In the Freezing Patent, sperm is first sorted and then frozen, while in the Reverse Sort Patents, the sperm is first frozen, then thawed and sorted.

The Fluid Patents claim flow cytometry devices and methods that use “sheath fluids” to provide optimum pre- and post-sorting fluid environments for the cells to “achieve as unaffected a sorted result as possible.” ’867 patent, J.A. 13485 col. 4 ll. 40–55, J.A. 13493 col. 20 ll. 1–4; ’860 patent, J.A. 13516 col. 18 ll. 47–50, J.A. 13509 col. 4 ll. 27–43. The claimed fluids are introduced in a “coordinated” fashion such that the cells’ fluid environment changes at various stages of the sorting process to minimize stress on the cells and keep as many of the cells alive as possible. *See, e.g.*, ’867 patent, J.A. 13490 col. 13 ll. 1–65, J.A. 13493 col. 20 l. 1.

The Freezing Patent claims methods for “cryopreserving sperm that have been selected for a specific characteristic.” J.A. 13300 col. 2 ll. 9–10, 16–17; J.A. 13315 col. 31 l. 64 – col. 32 l. 11. The claimed methods purport to “facilitat[e] storage and/or shipment of selected sperm samples to sites distant from the collection site.” J.A. 13300 col. 2 ll. 44–46. According to the patent, thawing the samples “yields viable sperm that can be used in procedures such as artificial insemination . . . and in vitro fertilization.” *Id.* col. 2 ll. 46–48.

The Reverse Sort Patents claim methods of first freezing, then thawing, and finally sorting sperm cells. *See, e.g.*, ’687 patent, J.A. 13434 col. 30 ll. 9–42. The parties agree that a principal difference between the claimed methods in the Reverse Sort Patents and prior art methods is the use of a relatively high concentration of dye for staining the sperm cells in the Reverse Sort Patents—greater than 40 micromolar. *See, e.g., id.* col. 30 ll. 15–17.

The In-Vitro Fertilization Patent claims methods of in-vitro fertilization using sorted and reverse sorted sperm. *See generally* J.A. 14930–31 col. 10 l. 14 – col. 12 l. 26.

II. Factual Background

Trans Ova provides services related to embryo transfer and in-vitro fertilization for cattle. Before the events giving rise to this lawsuit, Trans Ova purchased sorted semen from Inguran, LLC (Inguran), which was a licensee of XY's patents. Trans Ova became dissatisfied with the quality of Inguran's product, however, and sought to license XY's technology to produce its own sorted semen.

XY and Trans Ova entered into a five-year licensing agreement (the Agreement) in April 2004 under which Trans Ova was authorized to use XY's technology in animal breeding. The Agreement was subject to automatic renewal in April 2009, unless, *inter alia*, Trans Ova was in material breach of the Agreement. XY retained the right to terminate the Agreement in the event of certain breaches by Trans Ova, upon written notice to Trans Ova.

In November 2007, Inguran acquired XY and, in the same month, XY sent a letter purporting to terminate the Agreement (Termination Letter) because of alleged breaches by Trans Ova. Trans Ova disagreed with XY's allegations of breach and argued that the Agreement had not been terminated. Over the course of several years, the parties negotiated but failed to resolve their disputes. Trans Ova continued to make royalty payments to XY pursuant to the Agreement, in accordance with its position that the Agreement had not been terminated, but XY declined all payments except one (which XY alleges it accepted in error). During the period of negotiations, XY alleges that it became aware of further breaches by Trans Ova (in addition to those alleged in the Termination Letter), including underpayment of royalties and development of improvements to XY's technology without disclosure of such improvements to XY.

III. Procedural History

In March 2012, XY sued Trans Ova for patent infringement in the United States District Court for the Western District of Texas. Trans Ova moved to dismiss or transfer for improper venue. On March 28, 2013, the district judge granted Trans Ova's motion and transferred the case to the District of Colorado. XY filed an amended complaint, adding claims for breach of contract and unjust enrichment. Trans Ova, in turn, asserted (1) patent invalidity, (2) monopolization and attempted monopolization under the Sherman Act, and (3) breach of contract by XY and Inguran.²

A. Summary Judgment

XY moved for summary judgment that Trans Ova's antitrust claims were barred by the applicable four-year statute of limitations. Trans Ova argued in response that the "continuing conspiracy" exception, per Tenth Circuit case law, effectively restarted the limitations period with each "new and independent act" that inflicted "new and accumulating injury" on Trans Ova after XY sent the Termination Letter. J.A. 41 (quoting *Champagne Metals v. Ken-Mac Metals, Inc.*, 458 F.3d 1073, 1088 (10th Cir. 2006)). The district court determined that Trans Ova had not identified any new injury resulting from XY's post-termination actions in its brief in opposition to XY's motion. Therefore, the district court held that the continuing conspiracy exception did not apply and Trans Ova's

² Inguran was previously a party to this suit. After dismissing Trans Ova's antitrust counterclaims, the district court granted Inguran's motion for judgment on the pleadings as to the remaining claims against Inguran and removed Inguran from the suit. See J.A. 55–63.

antitrust claims were barred by the statute of limitations. *Id.* at 43–44.

Trans Ova filed a motion for reconsideration, which the district court denied. The district court reaffirmed its ruling that Trans Ova had failed to show a triable issue of new and accumulating injury resulting from any of XY's post-termination actions. The district court clarified that, in granting summary judgment, it had assumed that the Termination Letter was not a "final act" that permanently excluded Trans Ova from the market, but "nevertheless found that Trans Ova did not meet the threshold requirement to show that any subsequent acts caused new injuries." J.A. 50. "It was Trans Ova's burden, in opposing summary judgment, to present evidence that the continuing conspiracy exception applied" and "Trans Ova's failure to address the new injury prong of the analysis fell short of meeting that burden." *Id.* (citing *Celotex Corp. v. Catrett*, 477 U.S. 317 (1986)). Trans Ova's identification of two allegedly new categories of injuries in its briefing on the motion for reconsideration "should have been included in its prior briefing" and thus came too late. J.A. 51.

B. Jury Trial

The case proceeded to a jury trial. The jury found that both parties had breached the Agreement. Specifically, the jury found that Trans Ova materially breached and failed to cure prior to the April 2009 renewal date set out in the Agreement. As a result, under the jury's finding, the Agreement terminated in April 2009, and Trans Ova's post-termination use of XY's patented technology was unlicensed and infringing. The jury also found, however, that XY violated the Agreement and its duty of good faith and fair dealing by attempting to terminate the license in November 2007. As compensation for the respective breaches, the jury awarded XY \$1,481,000 and Trans Ova \$528,000 in damages.

The jury also found that none of the asserted patent claims were invalid and that Trans Ova willfully infringed. The jury awarded XY \$4,585,000 for Trans Ova's patent infringement. In addition, the jury found that XY had unclean hands from its purported termination of the Agreement in November 2007.

C. Post-Trial

After trial, Trans Ova filed motions on the breach of contract, willfulness, and invalidity issues. XY filed motions seeking an award of an ongoing royalty and enhanced damages.

Regarding the breach of contract issues, Trans Ova moved for judgment as a matter of law under Rule 50(b) or, in the alternative, a new trial under Rule 59(a) or an amended judgment under Rule 59(e). Trans Ova argued that XY's attempt to terminate the Agreement was a material breach that excused Trans Ova's obligations under the Agreement and that the jury's findings that both parties breached and were entitled to damages were irreconcilable. Trans Ova also argued that the jury verdict form was structured in such a way that the jury was not able to determine whether Trans Ova's obligations under the Agreement had been suspended due to XY's breach. At trial, the district court overruled an objection by Trans Ova to the verdict form that was based on similar arguments. The district court denied Trans Ova's motion, inferring that the jury found a material breach by Trans Ova before XY sent the Termination Letter. The district court also determined that a reasonable jury could have reached the conclusions reflected in the verdict form based on the evidence presented at trial.

With respect to willfulness, Trans Ova moved under Rule 59(e) for a ruling of no willful infringement. XY opposed the motion, arguing, *inter alia*, that Trans Ova could not seek its requested relief because Trans Ova had not challenged the sufficiency of XY's evidence on willful-

ness by moving under Rule 50(a) at trial. The district court rejected this argument, stating that “Trans Ova’s argument is not a challenge to the sufficiency of XY’s evidence at trial, but rather an argument that the jury’s willful infringement finding was clearly erroneous as a matter of law.” J.A. 11. More particularly, the district court understood Trans Ova to be arguing that certain of its invalidity defenses were objectively reasonable under the test for willfulness set out in *In re Seagate Technology, LLC*, 497 F.3d 1360 (Fed. Cir. 2007) (en banc). The district court determined that the invalidity defenses were objectively reasonable and granted Trans Ova’s motion, finding no willful infringement as a matter of law. However, as explained, *infra*, the district court later revisited this decision after the Supreme Court issued its opinion in *Halo Electronics, Inc. v. Pulse Electronics, Inc.*, 136 S. Ct. 1923 (2016).

On invalidity, Trans Ova moved under Rule 59(a) for a new trial. The district court denied the motion, holding that Trans Ova’s arguments in support of the motion were merely a critique of XY’s expert’s opinions and amounted to nothing more than a rehash of arguments presented to the jury at trial. Trans Ova had stipulated to the qualification of XY’s expert to testify regarding “the subject matter of the asserted patents” under Federal Rule of Evidence 702. The district court held that Trans Ova was not entitled to a new trial because “Trans Ova’s arguments point to a classic battle of the experts . . . rather than an indication that the overwhelming weight of the evidence leans but one way.” J.A. 16–17.

XY filed a motion requesting that the district court set an ongoing royalty as an equitable remedy for Trans Ova’s future infringement. The district court noted Trans Ova’s admission that it intended to continue to practice XY’s patents and determined that an ongoing royalty would be appropriate. The district court then observed that the jury effectively adopted the 15% royalty rate on

gross sales and the 4% royalty rate for reverse sorting services proposed by XY's damages expert at trial. The district court also noted that "every one of XY's prior licenses include[d] a 10% royalty rate, which tend[ed] to prove that 10% [was] XY's established royalty." J.A. 28. After considering the relevant evidence and the parties' various arguments under certain of the factors set out in *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), the district court calculated an ongoing royalty rate for gross sales by averaging the jury's 15% rate with the 10% rate in XY's prior licenses to arrive at a rate of 12.5%. For reverse sorting services, the district court awarded an ongoing royalty rate of 2%, half of the jury's rate for those services.

XY also moved for an award of enhanced damages, which the district court denied.

Based on the jury's unclean hands finding, the district court denied XY's unjust enrichment claim and XY's request for injunctive relief.

D. Post-Judgment

After the Supreme Court issued its decision in *Halo*, XY moved under Rule 59(e) to alter or amend the judgment with respect to the ongoing royalty rate and under Rule 60(b)(6) to reconsider the district court's finding of no willful infringement and denial of enhanced damages. The district court denied XY's motion with respect to the ongoing royalty rate. Regarding willfulness, the district court granted XY's motion in part by reinstating the jury's finding of willfulness—in view of *Halo's* abrogation of the objective prong of *Seagate's* test for willfulness, under which the district court had granted judgment as a matter of law of no willful infringement—but denied XY's motion for reconsideration of the district court's denial of enhanced damages.

Trans Ova appeals the district court's rulings on the antitrust, breach of contract, invalidity, and willfulness issues. XY appeals the district court's calculation of the ongoing royalty rate. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

STANDARDS OF REVIEW

We review a district court's methodology for calculating an ongoing royalty under the abuse of discretion standard. See *ActiveVideo Networks, Inc. v. Verizon Commc'ns, Inc.*, 694 F.3d 1312, 1332 (Fed. Cir. 2012).

We review each of the other disputed issues in this appeal under the law of the regional circuit, the Tenth Circuit. *Classen Immunotherapies, Inc. v. Elan Pharm., Inc.*, 786 F.3d 892, 896 (Fed. Cir. 2015) (grant of summary judgment); *Lincoln Nat'l Life Ins. Co. v. Transamerica Life Ins. Co.*, 609 F.3d 1364, 1367 (Fed. Cir. 2010) (denial of judgment as a matter of law); *Voda v. Cordis Corp.*, 536 F.3d 1311, 1328 (Fed. Cir. 2008) (challenge to jury instructions); *Lummus Indus., Inc. v. D.M. & E. Corp.*, 862 F.2d 267, 273 (Fed. Cir. 1988) (challenge to special verdict form); *Golden Bridge Tech., Inc. v. Apple Inc.*, 758 F.3d 1362, 1367 (Fed. Cir. 2014) (denial of motion for reconsideration); *Promega Corp. v. Life Techs. Corp.*, 875 F.3d 651, 659 (Fed. Cir. 2017) (denial of new trial).

The Tenth Circuit reviews *de novo* a district court's grant of summary judgment, *Timmons v. White*, 314 F.3d 1229, 1232 (10th Cir. 2003), and denial of a motion for judgment as a matter of law, *Jones v. United Parcel Serv., Inc.*, 674 F.3d 1187, 1195 (10th Cir. 2012).

The Tenth Circuit reviews whether a district court erred in refusing to give a particular jury instruction under the abuse of discretion standard. *Morrison Knudsen Corp. v. Fireman's Fund Ins. Co.*, 175 F.3d 1221, 1231 (10th Cir. 1999). However, the Tenth Circuit also "review[s] all the instructions *de novo* to determine whether

the absence of the requested instruction resulted in a misstatement of the applicable law to the jury.” *Powers v. MJB Acquisition Corp.*, 184 F.3d 1147, 1152 (10th Cir. 1999). The Tenth Circuit then determines whether the instructions, taken as a whole, convey the proper law and focus the jury on the relevant inquiry. *Id.*

The Tenth Circuit also uses an abuse of discretion standard when it reviews (1) a district court’s decision to deny a motion for reconsideration, *Wright ex rel. Tr. Co. of Kan. v. Abbott Labs., Inc.*, 259 F.3d 1226, 1235 (10th Cir. 2001); (2) a district court’s decision on a motion for a new trial, *United States v. Lamy*, 521 F.3d 1257, 1265–66 (10th Cir. 2008); and (3) a challenge to the language and structure of a special verdict form, *Webb v. ABF Freight Sys., Inc.*, 155 F.3d 1230, 1249 (10th Cir. 1998).

DISCUSSION

I. Trans Ova’s Antitrust Counterclaims

Trans Ova asserted counterclaims under § 2 of the Sherman Act alleging monopolization and attempted monopolization of the market for sorting nonhuman, mammalian semen by sex. The Sherman Act’s statute of limitations bars recovery if a cause of action is asserted more than four years after it accrues. 15 U.S.C. § 15b. It is undisputed that Trans Ova’s antitrust causes of action first accrued in November 2007 when XY sent the Termination Letter. The instant litigation began in 2012. Therefore, Trans Ova’s antitrust counterclaims are barred by the statute of limitations unless an exception applies. The only potential exception identified by Trans Ova is the continuing conspiracy exception. The parties agree that Tenth Circuit case law governs our determination of whether the continuing conspiracy exception should apply in this case. *See In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322, 1325 (Fed. Cir. 2000) (“As a general proposition, when reviewing a district court’s judgment involv-

ing federal antitrust law, we are guided by the law of the regional circuit in which that district court sits.”).

The Supreme Court recognized the continuing conspiracy exception in *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 401 U.S. 321, 338 (1971) (“In the context of a continuing conspiracy to violate the antitrust laws, . . . each time a plaintiff is injured by an act of the defendants[,] a cause of action accrues . . . to recover the damages caused by that act and . . . , as to those damages, the statute of limitations runs from the commission of the act.”). The Tenth Circuit elaborated on the exception in *Kaw Valley Electric Cooperative Co. v. Kansas Electric Power Cooperative, Inc.* by holding that an act may trigger the exception only if it satisfies a two-part test: “(1) It must be a new and independent act that is not merely a reaffirmation of a previous act; and (2) it must inflict new and accumulating injury on the plaintiff.” 872 F.2d 931, 933 (10th Cir. 1989) (quoting *Pace Indus., Inc. v. Three Phoenix Co.*, 813 F.2d 234, 238 (9th Cir. 1987)); *see also Champagne Metals*, 458 F.3d at 1088 (applying the *Kaw Valley* test).

As an initial matter, the parties dispute whether the movants (XY and Inguran) or Trans Ova bore the burden of proof on the applicability of the continuing conspiracy exception. Trans Ova argues that it was the movants’ obligation to present sufficient undisputed evidence to establish that the Termination Letter was “a final act that caused all of the injuries.” Trans Ova Open. Br. at 13 (citing *Celotex Corp. v. Catrett*, 477 U.S. 317, 323–24 (1986)). According to Trans Ova, the district court erred when it placed the burden on Trans Ova to show a new and independent act that inflicted new and accumulating injury. XY counters that Trans Ova bore the burden to show a triable issue as to the applicability of the continuing conspiracy exception, because “the party who seeks to recover, upon the ground of his being within some exception of the statute of limitations, is bound to establish

such exception by proof” and the “plain language of Rule 56(c) mandates the entry of summary judgment . . . against a party who fails to make a showing sufficient to establish the existence of an element essential to that party’s case, and on which that party will bear the burden of proof at trial.” XY Resp. Br. at 24–25 (quoting *Somerville’s Ex’rs v. Hamilton*, 17 U.S. (4 Wheat.) 230, 234 (1819); *Celotex*, 477 U.S. at 322).

We agree with XY that Trans Ova bore the burden to present evidence that the continuing conspiracy exception applied. See *Akron Presform Mold Co. v. McNeil Corp.*, 496 F.2d 230, 233 (6th Cir. 1974) (noting that, when a party invokes the continuing conspiracy exception, that party bears the burden of proof to establish it). In *Kaw Valley*, the Tenth Circuit stated that, to come within the continuing conspiracy exception, “a **plaintiff** must show that it has been injured by ‘continued, separate antitrust violations within the limitations period.’” 872 F.2d at 933 (emphasis added) (quoting *Hennegan v. Pacifico Creative Serv., Inc.*, 787 F.2d 1299, 1301 (9th Cir. 1986)); see also *Piatt v. Vattier*, 34 U.S. (9 Pet.) 405, 413 (1835) (“In a court of common law a party defendant pleads the statute of limitations; the plaintiff replies an exception, and he must raise a prima facie case by evidence.”).

The Supreme Court made clear in *Celotex* that, at summary judgment, a party is entitled to judgment as a matter of law when “the nonmoving party has failed to make a sufficient showing on an essential element of her case with respect to which she has the burden of proof.” 477 U.S. at 323. Under *Kaw Valley*, the “new and accumulating injury” is an essential element of proving applicability of the continuing conspiracy exception and an issue on which Trans Ova bore the burden of proof at trial. See *Kaw Valley*, 872 F.2d at 934–35 (finding that the continuing conspiracy exception did not apply because there was no accumulating injury). Because Trans Ova bore the burden of proof, and because Trans Ova failed to

identify any “new and accumulating injury” resulting from any of XY’s post-termination acts in its brief opposing XY’s motion for summary judgment,³ the district court did not err in granting summary judgment in XY’s favor.⁴

For the foregoing reasons, we affirm the district court’s grant of XY’s motion for summary judgment on Trans Ova’s antitrust counterclaims.⁵

³ See generally Trans Ova’s Br. in Opp’n to XY’s Mot. for Summ. J., *XY, LLC v. Trans Ova Genetics, LC*, No. 13-CV-876 (D. Colo. Aug. 22, 2014), ECF No. 247. Trans Ova’s brief alleged only a single injury that resulted from XY’s conduct: exclusion from the relevant market covered by XY’s patents. See *id.*

⁴ The district court did not abuse its discretion in disregarding arguments about new and accumulating harm that Trans Ova raised for the first time in its motion for reconsideration. See *Servants of Paraclete v. Does*, 204 F.3d 1005, 1012 (10th Cir. 2000) (affirming district court’s decision to disregard arguments and evidence presented for the first time in a motion for reconsideration).

⁵ Trans Ova argues that the district court’s decision turned on its erroneous interpretation of Trans Ova’s expert’s testimony. In particular, Trans Ova argues that the district court incorrectly read Trans Ova’s expert testimony characterizing the antitrust damages as overlapping with the contract damages to mean that there was only a single antitrust injury. However, the district court expressly stated that it “did not rely on [Trans Ova’s expert’s] testimony as evidence that no new injury had been inflicted.” J.A. 52. The district court’s decision rested on Trans Ova’s failure to raise arguments identifying a new and accumulating injury, not on any consideration of expert testimony on damages.

II. Breach of Contract

Trans Ova presses three arguments on the breach of contract issues: (1) Trans Ova's breaches were excused by XY's prior material breach and continuing breaches, (2) the jury's findings that both parties breached were irreconcilably inconsistent, and (3) the district court abused its discretion by adopting a confusing and improperly structured special verdict form.

First, Trans Ova argues that its obligations under the Agreement were excused because XY materially breached the Agreement before Trans Ova breached. Under Colorado contract law, "it is a condition of each party's remaining duties to render performances . . . that there be no uncured material failure by the other party to render any such performance due at an earlier time." *Colo. Interstate Gas Co. v. Chemco, Inc.*, 854 P.2d 1232, 1239 (Colo. 1993).⁶ The district court rejected this argument and held that a reasonable jury could have found that Trans Ova materially breached before XY by underpaying royalties and developing improvements to XY's technology without disclosing such improvements to XY. J.A. 7–10 (citing trial evidence). We agree with the district court that a reasonable jury could have found that Trans Ova's breaches occurred before XY's breach based on the trial evidence. Therefore, like the district court, we reject Trans Ova's argument that its breaches were excused by XY's later breach.

Second, Trans Ova argues that the jury's findings are inconsistent because, if Trans Ova materially breached before XY, XY's breach must have been excused. However, Trans Ova never presented this argument to the

⁶ The parties agree that Colorado contract law applies here.

district court in its briefing in support of its post-trial motion. Trans Ova only argued before the district court that there was insufficient evidence for a reasonable jury to conclude that Trans Ova breached before XY. Moreover, XY has not appealed the jury's finding that it was liable for breach of contract, nor did XY argue in its briefing on Trans Ova's post-trial motion that its breach should be excused by Trans Ova's prior breach. Because Trans Ova did not present this argument to the district court, we decline to consider it in the first instance on appeal. *Singleton v. Wulff*, 428 U.S. 106, 120 (1976) (“[I]t is the general rule . . . that a federal appellate court does not consider an issue not passed upon below.”).

Finally, Trans Ova argues that the district court abused its discretion by adopting XY's proposed special verdict form. In particular, Trans Ova argues that the district court erred by not including a question about whether XY's breach was material in the verdict form. Significantly, Trans Ova does not argue that the jury was improperly instructed as to what constitutes a material breach, because the parties stipulated to the proposed jury instruction on this issue. As a general matter, “it must be left to the sound discretion of the trial court what form of verdict to request of a jury.” See *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 720 (Fed. Cir. 1984); *ClearOne Commc'ns, Inc. v. Bowers*, 643 F.3d 735, 765 (10th Cir. 2011). We see no reason to deviate from this general rule in this case and find no abuse of discretion by the district court in adopting XY's proposed verdict form. Because the jury was properly instructed on materiality, the jury was adequately equipped to determine how a material breach by one party affected later breaches by the opposing party. In view of the jury instructions, the verdict form was not “clearly unreasonable.” *Lazare Kaplan Int'l, Inc. v. Photocscribe Techs., Inc.*, 714 F.3d 1289, 1293 (Fed. Cir. 2013).

For the foregoing reasons, we affirm the district court's denial of Trans Ova's motion on the breach of contract issues.

III. Invalidity

Trans Ova argues that the district court abused its discretion in denying Trans Ova's motion for a new trial on the invalidity issues. XY counters that the district court did not abuse its discretion, because Trans Ova's motion improperly requested that the district court reweigh the evidence and reevaluate the credibility of XY's expert, Dr. James Wood. XY notes that Trans Ova stipulated as to Dr. Wood's expertise and competency to testify before the jury in the areas of flow cytometry and the subject matter of the asserted patents.

A. Collateral Estoppel

As a threshold matter, we need not address Trans Ova's invalidity arguments as to the Freezing Patent claims in view of our affirmance today in a separate appeal invalidating these same claims, which collaterally estops XY from asserting the patent in any further proceedings. In this separate case appealed to us and argued on the same day as the instant appeal, the Patent Trial and Appeal Board of the U.S. Patent and Trademark Office (Board) held that these claims are unpatentable in a final written decision from an *inter partes* review proceeding. *See generally XY, LLC v. ABS Glob., Inc.*, Appeal No. 16-2228. In a separate order issued today, we affirm the Board's decision.⁷

⁷ On remand, the district court should consider the impact, if any, of our affirmance of the Board's decision that held claims unpatentable on the damages award and whether a new trial on damages is warranted.

That affirmance renders final a judgment on the invalidity of the Freezing Patent, and has an immediate issue-preclusive effect on any pending or co-pending actions involving the patent. This court has previously applied collateral estoppel to such co-pending cases because “a patentee, having been afforded the opportunity to exhaust his remedy of appeal from a holding of invalidity, has had his ‘day in court,’” and a defendant should not have to continue “defend[ing] a suit for infringement of [an] adjudged invalid patent.” *U.S. Ethernet Innovations, LLC v. Tex. Instruments Inc.*, 645 F. App’x 1026, 1028–30 (Fed. Cir. 2016) (citing *Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313 (1971)); *Translogic Tech., Inc. v. Hitachi, Ltd.*, 250 F. App’x 988 (Fed. Cir. 2007).⁸

We do not find, as the Dissent states, that “in the event of conflict the administrative agency’s decision ‘moots’ the district court’s decision.” Dissent at 6. Rather, we find that an affirmance of an invalidity finding, whether from a district court or the Board, has a collateral estoppel effect on all pending or co-pending actions. This court has long applied the Supreme Court’s holding in *Blonder-Tongue* to apply collateral estoppel in mooted pending district court findings of no invalidity based on intervening final decisions of patent invalidity. *See, e.g., Mendenhall v. Barber-Greene Co.*, 26 F.3d 1573, 1576 (Fed. Cir. 1994); *Dana Corp. v. NOK, Inc.*, 882 F.2d 505, 507–08 (Fed. Cir. 1989). This court also recently applied the Supreme Court’s holding in *B&B Hardware, Inc. v. Hargis Industries, Inc.*, 135 S. Ct. 1293, 1303 (2015), to apply such estoppel to Board decisions. *See MaxLinear, Inc. v. CF CRESPE LLC*, 880 F.3d 1373 (Fed. Cir. 2018).

⁸ These decisions are non-precedential, but lay out the reasoning for co-pending appellate decisions having a preclusive effect on each other.

The instant case is a straightforward application of this court's and Supreme Court precedent.

As to the Dissent's concern of applying estoppel without briefing, both precedent and the parties' positions allow application of collateral estoppel *sua sponte* here. A remand for briefing is not a requirement to applying estoppel when 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 case. *Dana Corp.*, 882 F.2d at 508. Here, in oral argument, both parties assumed that an affirmance of the Board's decision would result in estoppel and thus simply disputed the result of such estoppel. Trans Ova argued that an affirmance would call for a remand of this case to reassess damages in light of the Freezing Patent's invalidity, while XY argued that an affirmance would not require a remand because the asserted patents were grouped in a way where the invalidation of one patent would not affect the damages award. Oral Arg. at 1:30–46, 18:10–19:20. There is no indication that either party thought estoppel would not apply. Thus, this court, in circumstances such as this one, applies estoppel *sua sponte* to avoid "unnecessary judicial waste" from remanding an issue that has a clear estoppel effect. *Arizona v. California*, 530 U.S. 392, 412 (2000).

Further, the fact that the Defendant in this case and the Petitioners in an *inter partes* review at the Board were different parties is of no consequence. "An unrelated accused infringer may . . . take advantage of an unenforceability decision under the collateral estoppel doctrine." *Pharmacia & Upjohn Co. v. Mylan Pharm., Inc.*, 170 F.3d 1373, 1379 (Fed. Cir. 1999) (affirming district court application of collateral estoppel).

Thus, in view of this court's concurrent affirmance of the Board's decisions in *XY, LLC v. ABS Global, Inc.*, Appeal No. 16-2228, we do not address Trans Ova's inva-

lidity arguments as to the Freezing Patent claims in this appeal, and dismiss Trans Ova's appeal of the district court's decision on this issue as moot.

B. Abuse of Discretion

For the remaining patents-at-issue, we agree with XY that the district court did not abuse its discretion in denying Trans Ova's motion for a new trial on the issue of patent invalidity. First, "[t]he jury holds 'the exclusive function of appraising credibility . . . [and] determining the weight to be given to the testimony.'" J.A. 17 (quoting *United Int'l Holdings, Inc. v. Wharf (Holdings) Ltd.*, 210 F.3d 1207, 1227 (10th Cir. 2000)). Second, the jury's findings of no invalidity for these patents is supported by substantial evidence, as discussed *infra*.

For the In-Vitro Fertilization Patent, asserted claim 9 requires "produc[ing] sex-selected embryos capable of blastocyst formation." XY Principal Br. at 42. Dr. Wood testified that the primary reference asserted against claim 9, the Merton reference, disclosed only a "failed experiment" that did not show producing sex-selected embryos capable of blastocyst formation. J.A. 11324. Although 1.5% of inseminated oocytes (i.e., eggs) reached blastocyst stage in Merton's experiment, Dr. Wood testified that this was a statistically insignificant result and that the blastocyst formation could have been caused by external stimuli via parthenogenesis. *See* J.A. 11323 ll. 15–22 ("[C]leavage is the first stage of [embryo] development. . . . [T]he cleavage process can be stimulated by either a sperm entering the oocyte or it can be stimulated by [a] change in environment" that "stimulate[s]" the embryo "to go through what's called parthenogenesis . . ."). The jury reasonably credited Dr. Wood's testimony and determined that claim 9 of the In-Vitro Fertilization Patent was not invalid because the Merton reference did not disclose the limitation reciting

“produc[ing] sex-selected embryos capable of blastocyst formation.”

The asserted claims of the Fluid Patents (claims 12 and 13 of the '867 patent and claims 1 and 32 of the '860 patent) require chemical coordination between pre- and post-sort fluids that are added to sperm cells to help them survive the sorting process. XY Principal Br. at 45. Dr. Wood testified that, although the prior art reference (the Johnson Patent) disclosed the fluids, it did not contemplate any coordination in introducing the fluids so as to aid the sperm in adapting at each transition between sorting stages. *Id.* at 46. The Karabinus reference, another reference asserted against the Fluid Patents, also did not disclose coordination according to Dr. Wood. *Id.* at 47. Dr. Wood testified that coordination requires more than the mere introduction of fluid into the sorting process, which was all that the asserted prior art references taught. The jury reasonably relied on Dr. Wood's testimony to reject Trans Ova's invalidity arguments on the Fluid Patents.

The asserted claims of the Reverse Sort Patents (claims 1, 2, and 13 of the '687 patent and claims 1, 2, 5, and 18 of the '921 patent) were also found to be not invalid by the jury. The parties disputed whether the common claim step of dyeing the sperm cells with “Hoechst 33342 stain” at a concentration of greater than 40 micromolar would have been obvious over prior art references that disclosed using a concentration of approximately 9 micromolar. Dr. Wood testified that a person of ordinary skill would not have increased the staining amount from 9 to 40 because skilled artisans (1) were already satisfied with the staining capabilities at 9 and (2) would have been concerned about the toxicity to the sperm cells caused by the increase to 40. The jury reasonably relied on this testimony from Dr. Wood to find that a person of ordinary skill in the art would not have found the in-

crease to 40 to be obvious and, therefore, that the asserted claims of the Reverse Sort Patents were not invalid.

For the foregoing reasons, we affirm the district court's denial of Trans Ova's motion for a new trial on the invalidity issues.

IV. Willfulness

As noted, *supra*, the district court declined to award enhanced damages, even after it reinstated the jury's willfulness finding. Because no enhanced damages were awarded, which XY does not appeal, we dismiss as moot Trans Ova's appeal of the district court's decision to reinstate the jury's finding that Trans Ova's infringement was willful. *See Odetics, Inc. v. Storage Tech. Corp.*, 185 F.3d 1259, 1274–75 (Fed. Cir. 1999) (holding that a dispute about the district court's limitation of the time period during which the jury could find willful infringement was moot in view of the court's determination that the district court did not abuse its discretion in declining to award enhanced damages).

V. Ongoing Royalty

The parties do not dispute the district court's decision to award an ongoing royalty. The only dispute relates to the appropriateness of the district court's mandated rates. In particular, XY appeals the district court's 12.5% rate for gross sales of products practicing the patents and 2% rate for reverse sorting services. XY argues that these ongoing royalty rates are too low in view of the jury's decision to award backward-looking damages based on a 15% rate on gross sales and a 4% rate on reverse sorting services.⁹ XY argues that the district court misapplied

⁹ Trans Ova does not contest that the jury relied on these rates to arrive at its damages award.

our precedent by neglecting to focus on the post-verdict economic circumstances of the parties when calculating the ongoing royalty rates. Trans Ova argues in response that the district court “had broad discretion to assess a reasonable ongoing royalty rate” and that “XY seeks to strip . . . all district courts . . . of that discretion by requiring that they set an ongoing royalty rate no lower than the amount awarded for infringement absent exceptional circumstances.” Trans Ova Resp. Br. at 48.

In *Amado v. Microsoft Corp.*, we held that there is a “fundamental difference” between “a reasonable royalty for pre-verdict infringement and damages for post-verdict infringement.” 517 F.3d 1353, 1360 (Fed. Cir. 2008). For example, when calculating an ongoing royalty rate, the district court should consider the “change in the parties’ bargaining positions, and the resulting change in economic circumstances, resulting from the determination of liability.” *Id.* at 1362. When patent claims are held to be not invalid and infringed, this amounts to a “substantial shift in the bargaining position of the parties.” *ActiveVideo Networks, Inc. v. Verizon Commc’ns, Inc.*, 694 F.3d 1312, 1342 (Fed. Cir. 2012). We have also instructed district courts to consider changed economic circumstances, such as changes related to the market for the patented products. *Paice LLC v. Toyota Motor Corp.*, 504 F.3d 1293, 1315 n.15 (Fed. Cir. 2007); *ActiveVideo*, 694 F.3d at 1343 (noting that district courts may consider “additional evidence” of “economic circumstances that may be of value in determining an appropriate ongoing royalty”).

The requirement to focus on changed circumstances is particularly important when, as in this case, an ongoing royalty effectively serves as a replacement for whatever reasonable royalty a later jury would have calculated in a suit to compensate the patentee for future infringement. *See Paice*, 504 F.3d at 1315 n.15 (“This process will . . . allow the parties the opportunity to present evidence regarding an appropriate [ongoing] royalty rate

to **compensate** [the patentee] . . .” (emphasis added)). The later jury would necessarily be focused on what a hypothetical negotiation would look like **after** the prior infringement verdict. Therefore, post-verdict factors should drive the ongoing royalty rate calculation in determining whether such a rate should be different from the jury’s rate. See *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1370 (Fed. Cir. 2017) (“Ongoing royalties may be based on a post-judgment hypothetical negotiation using the *Georgia-Pacific* factors.”).

The district court focused on pre-verdict factors that were either irrelevant or less relevant than post-verdict factors. In particular, the district court awarded an ongoing royalty based on an average between the jury’s reasonable royalty for past infringement (15%) and the rate established in the parties’ pre-suit license Agreement (10%). There are several problems with the district court’s usage of the 10% license rate in determining the ongoing royalty rate. First, that license rate had already been considered by the jury when it found that a higher rate of 15% was warranted for assessing damages, and that determination has not been appealed. To incorporate the license rate a second time in the context of the ongoing rate essentially amounts to undoing a jury finding. Second, the license rate was arrived at in the context of the parties’ pre-suit bargaining positions. It therefore is not relevant to assessing any changed circumstances that could alter a hypothetical negotiation between the date of first infringement and the date of the jury’s verdict. The district court also appeared to consider XY’s past behavior in engaging in “failed negotiations to enter into an amended license agreement with Trans Ova” in calculating the ongoing royalty. J.A. 26–27. However, the district court cited no evidence that the parties’ past actions would carry forward during future infringement or why they would be relevant for calculating a royalty rate for

future patent infringement. The district court thus provided no reasoned basis for lowering the royalty XY could recover for future infringement from the rate the jury provided for past infringement. The focus should have been on XY's improved bargaining position and any other changed economic factors (as articulated in *Amado*, *ActiveVideo*, and *Paice*) rather than XY's past acts.

XY points out that, if we were to affirm the result in this case, it would result in the “absurd practical result . . . that XY would have been better off forgoing the 12.5% ongoing royalty and suing Trans Ova repeatedly for future infringement at the jury’s 15% reasonable royalty rate.” XY Reply Br. at 13. Assuming no changed circumstances exist (either good or bad for XY) between the date of first infringement and the date of the jury’s verdict, we agree with XY that allowing the district court’s ongoing rates to stand in this case would create an odd situation. Although district courts may award a lower ongoing royalty rate if economic factors have changed in the infringer’s favor post-verdict—for example, if a newly-developed non-infringing alternative takes market share from the patented products—the district court identified no economic factors that would justify the imposition of rates that were lower than the jury’s.¹⁰

For these reasons, we vacate the district court’s ongoing royalty rate and remand with instructions to recalculate the rate in accordance with this opinion.

¹⁰ To the contrary, the district court stated: “The evidence at trial showed that the use of sorted semen via XY’s technology has spread rapidly in recent years, and the success and popularity of XY’s methods suggests that a higher rate than that in the Agreement may be appropriate.” J.A. 27.

CONCLUSION

We have considered all of the parties' remaining arguments. They do not affect our decisions on any of the disputed issues. For the foregoing reasons, the district court's judgment is

**AFFIRMED IN PART, DISMISSED IN PART,
VACATED IN PART AND REMANDED**

United States Court of Appeals for the Federal Circuit

XY, LLC,
Plaintiff-Cross-Appellant

v.

TRANS OVA GENETICS, L.C.,
Defendant-Appellant

2016-2054, 2016-2136

Appeals from the United States District Court for the District of Colorado in No. 1:13-cv-00876-WJM-NYW, Judge William J. Martinez.

NEWMAN, *Circuit Judge*, concurring-in-part, dissenting-in-part.

I concur in the court's judgment on the contract and antitrust issues. My concern is with the holding that the district court's judgment of validity of the Freezing Patent is "moot" on the ground of collateral estoppel. This holding of estoppel is based on a PTAB ruling in a separate case involving non-mutual parties, and contravenes not only the America Invents Act's estoppel provision, but also the general law of collateral estoppel. Of further concern, this holding that judicial authority is estopped by an administrative agency ruling between non-mutual parties warrants attention to the constitutional balance among the branches of government. In addition, due

process is not served by my colleagues' *sua sponte* creation of this estoppel on this appeal, without notice to the parties, without briefing, and without opportunity to respond.

I respectfully dissent from the panel majority's holding of collateral estoppel and ensuing invalidity as to the Freezing Patent. I concur as to validity and infringement of the two Fluid Patents, the In-Vitro Fertilization Patent, and the two Reverse Sort Patents. I also would affirm the jury's damages verdict.

DISCUSSION

The America Invents Act contains the following special estoppel provision applied to a civil action involving an alleged infringer who obtained inter partes review in the PTO:

35 U.S.C. § 315(e)(2). Civil actions and other proceedings. – The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

Thus section 315(e)(2) estops the PTAB petitioner from asserting designated grounds of invalidity in a civil action. However, that is not the situation here. This appeal is from a district court civil action to which the PTAB petitioner (or its privy) is not a party.

In the district court decision here on appeal, validity of the Freezing Patent was first found by a jury and sustained by the district judge. The jury's finding of no

invalidity is supported by substantial evidence. The jury verdict and the district court's judgment of validity of the Freezing Patent are not "mooted" by the PTAB's invalidity decision between non-mutual parties. The PTAB's decision may indeed be sustainable on the "substantial evidence" standard of the Administrative Procedure Act (APA), but the agency decision does not automatically override and estop the district court's earlier validity judgment, and remove that judgment from our appellate cognizance. Contrary to the majority's position, the district court's judgment that is here on appeal requires our appellate response, not discard.

Nor can the PTAB's decision be somehow validated by our concurrent separate affirmance of that agency decision on the APA standard of review. That separate action cannot ratify our concurrent refusal to apply the Article III standard of review to the district court decision here on appeal; that separate action cannot justify our discard of the district court's judgment as "mooted" by the agency decision. The law of collateral estoppel does not contemplate that result.

In *United States v. Mendoza*, 464 U.S. 154 (1984), the Court explained the principle of collateral estoppel:

[L]ike the related doctrine of res judicata, [collateral estoppel] serves to "relieve parties of the cost and vexation of multiple lawsuits, conserve judicial resources, and, by preventing inconsistent decisions, encourage reliance on adjudication.

Id. at 158 (quoting *Allen v. McCurry*, 449 U.S. 90, 94 (1980)) (footnote omitted). However, the Court has recognized the constitutional concerns raised by collateral estoppel: "The issue of collateral estoppel is a question that clouds the underlying issue of constitutionality." *Mackey v. Mendoza-Martinez*, 362 U.S. 384, 387 (1960). In *Mackey*, the Court remanded to the district court "to put in issue the question of collateral estoppel and to

obtain an adjudication upon it.” *Id.* Here, however, this court *sua sponte* finds collateral estoppel, discarding the district court judgment without consideration of the merits.

The Court teaches that estoppel is not routinely automatic. In *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*, 402 U.S. 313 (1971), for example, the Court rejected the position “that a plea of estoppel by an infringement or royalty suit defendant must automatically be accepted once the defendant in support of his plea identified the issue in suit as the identical question finally decided against the patentee or one of his privies in previous litigation.” *Id.* at 332–33.

In *Montana v. United States*, 440 U.S. 147, 162 (1979), the Court further guided that collateral estoppel is subject to a variety of exceptions. The Federal Circuit so acknowledged in *Bingaman v. Department of Treasury*, 127 F.3d 1431, 1437 (Fed. Cir. 1997) (“Collateral estoppel is subject to exceptions when the circumstances dictate.”). Yet today no opportunity is provided to raise possible exceptions and objections.

The *Restatement (Second) of Judgments* §§ 28–29 collects the many “Exceptions to the General Rule of Issue Preclusion.” Section 28 recites circumstances in which relitigation of an issue has been held not to be precluded in a subsequent action between the same parties. Section 29 records additional circumstances negating issue preclusion when there is non-mutuality of parties:

- (1) Treating the issue as conclusively determined would be incompatible with an applicable scheme of administering the remedies in the actions involved;

- (2) The forum in the second action affords the party against whom preclusion is asserted procedural opportunities in the presentation and de-

termination of the issue that were not available in the first action and could likely result in the issue being differently determined;

(3) The person seeking to invoke favorable preclusion, or to avoid unfavorable preclusion, could have effected joinder in the first action between himself and his present adversary;

(4) The determination relied on as preclusive was itself inconsistent with another determination of the same issue;

(5) The prior determination may have been affected by relationships among the parties to the first action that are not present in the subsequent action, or apparently was based on a compromise verdict or finding;

(6) Treating the issue as conclusively determined may complicate determination of issues in the subsequent action or prejudice the interests of another party thereto;

(7) The issue is one of law and treating it as conclusively determined would inappropriately foreclose opportunity for obtaining reconsideration of the legal rule upon which it was based;

(8) Other compelling circumstances make it appropriate that the party be permitted to relitigate the issue.

Restatement § 29 (citing cases). Applying these principles to this appeal, we need understand no more than the different standards of validity in the PTAB and the district court, the different burdens of proof, and the different standards of appellate review in this court, to appreciate that inconsistent decisions can be reached in

the PTAB and the district court, all weighing heavily against estoppel.¹ My colleagues' holding that in the event of conflict the administrative agency's decision "moots" the district court's decision, raises critical issues of constitutional balance.

The imposition of estoppel by my colleagues contravenes the America Invents Act, § 315(e)(2), as well as the Supreme Court's rulings. My colleagues rely on *Dana Corp. v. NOK, Inc.*, 882 F.2d 505 (Fed. Cir. 1989), to support depriving XY of the opportunity to contest the appellate application of collateral estoppel. Maj. Op. at 20. Yet in *Dana Corp.* the parties had opportunity to debate the issue; it was not an appellate surprise, as we explained:

NOK first raised estoppel in its reply brief. The parties addressed the issue at oral argument, during which Dana's counsel asserted that collateral estoppel should not be applied against Dana to de-

¹ My colleagues rely on this panel's concurrent affirmation of the PTAB's invalidation of the Freezing Patent in a non-mutual proceeding, *XY, LLC v. ABS Global, Inc.*, Appeal No. 16-2228. On the standard of "substantial evidence," the PTAB decision is supportable. However, on the district court's standard of "clear and convincing evidence," or even applying the standard of "preponderant evidence," the Freezing Patent retains validity. This discrepancy and the ensuing uncertainty of outcome illuminate a major flaw in the America Invents Act. Although it is now confirmed that Congress has authority to authorize the PTAB to invalidate issued patents, see *Oil States Energy Services, LLC v. Greene's Energy Group, LLC*, No. 16-712, 2018 WL 1914662 (U.S. Apr. 24, 2018), it cannot be inferred that Congress also authorized the PTAB to override the judgments of Article III courts.

feat its infringement claim against NOK based on invalidity of the '621 patent. After oral argument, this court ordered the parties to file supplemental briefs on that issue. Dana was required to address “its position that collateral estoppel should not be applied to this case and the related question of the propriety of this court, in the first instance, making that determination.”

882 F.2d at 508 (quoting Order). In contrast, estoppel was not raised on this appeal, was not briefed, not argued at the hearing,² not briefed post-hearing.

The court in *Dana Corp.* held that a remand was unnecessary because the patentee did not seek to supplement the record. My colleagues deny XY this opportunity, despite no party raising the question of whether estoppel negates or moots this district court judgment. “The indispensable ingredients of due process are notice and an opportunity to be heard by a disinterested decision-maker.” *Abbott Labs. v. Cordis Corp.*, 710 F.3d 1318, 1328 (Fed. Cir. 2013) (citing *Caperton v. A.T. Massey Coal Co.*, 556 U.S. 868, 876–81 (2009); *LaChance v. Erickson*, 522 U.S. 262, 266 (1998); *Memphis Light, Gas & Water Div. v. Craft*, 436 U.S. 1, 13 (1978); *Mathews v. Eldridge*, 424 U.S. 319, 333 (1976)). *Dana Corp.* afforded procedural safeguards that my colleagues deny.

² The panel majority proposes that “[t]here is no indication that either party thought estoppel would not apply.” Maj. Op. at 20. However, neither is there any indication that either party thought estoppel would apply—it was never discussed. “The fallacy of the argument consists in assuming the very ground in controversy.” *Trs. of Dartmouth Coll. v. Woodward*, 17 U.S. 518, 697 (1819) (Story, J., concurring).

My colleagues argue that their imposition of *sua sponte* estoppel avoids “unnecessary judicial waste.” Maj. Op. at 20. However, the conclusion of estoppel is reached without receiving the argument of the parties. Due process is not “unnecessary judicial waste.”

The majority’s imposition of collateral estoppel is inconsistent with precedent. In *B&B Hardware, Inc. v. Hargis Industries, Inc.*, 135 S. Ct. 1293, 1303 (2015), the Court applied issue preclusion arising from agency and Eighth Circuit trademark rulings, explaining why the “well-known exceptions” in § 28 of the Restatement were not applicable on the facts that existed. Collateral estoppel is not subject to automatic imposition without affording any opportunity for party discussion.

The opportunity to rebut a charge of collateral estoppel is a consistent theme in this court’s jurisprudence, including the cases cited by the panel majority. In *Mendenhall v. Barber-Greene Co.*, 26 F.3d 1573, 1580 (Fed. Cir. 1994), this court observed that “[e]ach appellant raised the issue [of collateral estoppel] during pending litigation at virtually the earliest possible date.” In *Pharmacia & Upjohn Co. v. Mylan Pharmaceuticals, Inc.*, 170 F.3d 1373 (Fed. Cir. 1999), the district court imposed collateral estoppel on the patentee, and on appeal the patentee had the opportunity to argue against preclusion. *Id.* at 1379–80. Conflicting views of the PTAB and the district court as to the Freezing Patent’s validity does not lead to automatic eradication of the district court’s judgment of validity. In *Arizona v. California*, 530 U.S. 392, 412–13 (2000), relied upon by the majority, the Court declined to *sua sponte* accept a preclusion defense.

Our non-precedential opinions are in accord with this established jurisprudence. In *U.S. Ethernet Innovations, LLC v. Texas Instruments Inc.*, 645 F. App’x 1026 (Fed. Cir. 2016), the district court afforded the patentee the opportunity to rebut application of collateral estoppel, and

the ruling of failure to rebut was a subject of the appeal. *Id.* at 1028–29. Similarly, in *Translogic Technology, Inc. v. Hitachi, Ltd, et al.*, 250 F. App'x 988 (Fed. Cir. 2007), the patentee argued against the application of collateral estoppel.

The panel majority seeks support in this court's recent decision in *MaxLinear, Inc. v. CF Crespe LLC*, 880 F.3d 1373 (Fed. Cir. 2018). Maj. Op. at 19–20. However, *MaxLinear* was not a case of collateral estoppel; *MaxLinear* related to inconsistent PTAB decisions, whereby this court remanded to the PTAB instructing that: “On remand, the Board must consider whether the dependent claims 4, 6–9, and 21 can survive the unpatentability of claims 1 and 17 from which they depend in view of the prior art cited in the '728 IPR.” *Id.* at 1377–78. This was not an application of collateral estoppel on appellate review.

Here, collateral estoppel was not pleaded and was not argued, yet is imposed on appeal without opportunity for response—contrary to precedent requiring that the precluded party “had a full and fair opportunity to present its arguments” concerning estoppel. *Transclean Corp. v. Jiffy Lube International, Inc.*, 474 F.3d 1298, 1308 (Fed. Cir. 2007). The cases cited by the panel majority do not support their position; they support the contrary position.

These departures from statute, precedent, practice, and due process add to the uncertainty of the patent grant, and thus add disincentive to patent-supported innovation. I discern no benefit to the public. I respectfully dissent.