

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

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**HOLOGIC, INC., CYTYC SURGICAL PRODUCTS,  
LLC,**  
*Plaintiffs-Appellants*

v.

**MINERVA SURGICAL, INC.,**  
*Defendant-Cross-Appellant*

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2019-2054, 2019-2081

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Appeals from the United States District Court for the District of Delaware in No. 1:15-cv-01031-JFB-SRF, Senior Judge Joseph F. Bataillon.

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Decided: April 22, 2020

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MATTHEW WOLF, Arnold & Porter Kaye Scholer LLP, Washington, DC, argued for plaintiffs-appellants. Also represented by JENNIFER SKLENAR, MARC A. COHN.

ROBERT N. HOCHMAN, Sidley Austin LLP, Chicago, IL, argued for defendant-cross-appellant. Also represented by JILLIAN STONECIPHER, CAROLINE A. WONG; OLIVIA M. KIM, EDWARD POPLAWSKI, Wilson Sonsini Goodrich & Rosati, Los Angeles, CA; VERA ELSON, Palo Alto, CA.

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Before WALLACH, CLEVINGER, and STOLL, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* STOLL, in which WALLACH and CLEVINGER, *Circuit Judges*, join.

Additional views filed by *Circuit Judge* STOLL.

STOLL, *Circuit Judge*.

These appeals require us to grapple with the doctrine of assignor estoppel, an equitable doctrine that prevents a party who assigned a patent to another from later challenging the validity of the assigned patent in district court. There are two patents-in-suit and each presents a different assignor estoppel issue. For the first patent, we consider whether the district court erred in holding that assignor estoppel does not bar the assignor from relying on our court's affirmance of the Patent Trial and Appeal Board's final decision invalidating the asserted patent claims in an inter partes review proceeding. For the second patent, we review the district court's summary judgment that assignor estoppel bars the assignor from asserting invalidity of the assigned second patent in district court. Based on our precedent, which we are bound to follow, we conclude that the district court did not err in either respect.

## BACKGROUND

### I

Hologic, Inc. and Cytoc Surgical Products, LLC (collectively, "Hologic") sued Minerva Surgical, Inc. for infringement of certain claims of its U.S. Patent Nos. 6,872,183 and 9,095,348, which relate to procedures and devices for endometrial ablation. Endometrial ablation is a treatment wherein the lining of the uterus is destroyed in order to treat menorrhagia, or abnormally heavy menstrual bleeding.

The '183 patent is titled "System and Method for Detecting Perforations in a Body Cavity," and describes and claims methods for determining the presence of uterine

perforations, or holes, prior to ablation. “[T]he presence of a perforation in the uterus could result in inadvertent passage of the ablation device through the perforation and out of the uterus into the bowel.” ’183 patent col. 1 ll. 38–41. The ’183 patent solves this problem by “provid[ing] a mechanism by which a physician can evaluate whether perforations are present in [the uterus] before” ablation. *Id.* at col. 1 ll. 43–46. Claim 9, the only asserted independent claim of the ’183 patent, recites:

9. A method of detecting a perforation in a uterus, comprising the steps of:

passing an inflation medium into the uterus;

monitoring for the presence of a perforation in the uterus using a pressure sensor;

if no perforation is detected during the monitoring step, permitting ablation of the uterus using an ablation device; and

if a perforation is detected during the monitoring step, preventing ablation of the uterus.

*Id.* at col. 8 ll. 39–48.

The ’348 patent is titled “Moisture Transport System for Contact Electrocoagulation,” and describes and claims an ablation device. The claimed device eliminates the problem of “steam and liquid buildup at the ablation site” associated with prior art devices, and also “allows the depth of ablation to be controlled” and “automatically discontinues ablation once the desired ablation depth has been reached.” ’348 patent col. 2 ll. 25–30. Claim 1, the only claim of the ’348 patent at issue in this appeal, recites:

1. A device for treating a uterus comprising:

an elongate member having a proximal portion and a distal portion, the elongate member comprising

an outer sleeve and an inner sleeve slidably and coaxially disposed within the outer sleeve;

an *applicator head* coupled to the distal portion, the applicator head defining an interior volume and having a contracted state and an expanded state, the contracted state being configured for transcervical insertion and the expanded state being configured to conform to the shape of the uterus, the applicator head including one or more electrodes for ablating endometrial lining tissue of the uterus;

a handle coupled to the proximal portion of the elongate member, wherein the handle comprises a frame, a proximal grip and a distal grip pivotally attached to one another at a pivot point and operably coupled to the applicator head so that when the proximal grip and the distal grip are moved closer together, the applicator head transitions from the contracted state to the expanded state;

a deflecting mechanism including flexures disposed within the applicator head, the flexures including first and second internal flexures and first and second external flexures, the first and second external flexures being coupled to the outer sleeve and the first and second internal flexures being coupled to the inner sleeve, wherein the deflecting mechanism is configured so that translating the inner sleeve relative to the frame causes the applicator head to transition from the contracted state to the expanded state; and

*an indicator mechanism operably coupled to the inner sleeve, the indicator mechanism configured to indicate a dimension of the uterus.*

*Id.* at col. 19 ll. 9–42 (emphases added to highlight disputed claim terms on appeal).

## II

In 1993, Csaba Truckai co-founded the company NovaCept, Inc. In the late 1990s, Mr. Truckai and his design team at NovaCept developed a medical device called the NovaSure system. NovaSure, which received approval for commercial distribution from the U.S. Food and Drug Administration in September 2001, detects perforations in the uterus by applying carbon dioxide gas to the uterus and measuring any flow of gas out of the uterus. NovaSure uses an application head with a triangular shape designed to conform to the shape of the uterus and which ablates the endometrial lining throughout the cavity in two minutes or less. NovaSure also provides a moisture transport function with a vacuum used to remove steam and moisture from the cavity during energy delivery. NovaSure is indicated for use in premenopausal women with menorrhagia due to benign causes for whom childbearing is complete. It is undisputed that NovaSure incorporates the patented technology in this case.

Both the '183 and '348 patents list Mr. Truckai as an inventor. In August 1998, Mr. Truckai assigned his interest in U.S. Patent Application No. 09/103,072, an application from which the '348 patent claims priority, as well as all continuation applications, to NovaCept. In February 2001, Mr. Truckai assigned his interest in U.S. Patent Application No. 09/710,102, an application from which the '183 patent claims priority, as well as all continuation applications, to NovaCept.

In 2004, Cytoc Corporation acquired NovaCept for \$325 million. NovaCept assigned its patent rights, including rights to continuation applications, to Cytoc. Hologic acquired Cytoc in 2007. The continuation application that issued as the '183 patent was filed in May 2004 and issued in March 2005. The continuation application that issued as the '348 patent was filed in August 2013 and issued in August 2015. Hologic is the current assignee of the

'183 and '348 patents and markets and sells the NovaSure system throughout the United States.

Mr. Truckai left NovaCept and, in 2008, founded the accused infringer in this case, Minerva. Mr. Truckai served as Minerva's President, Chief Executive Officer, and a member of its Board of Directors. Mr. Truckai and others at Minerva developed the Endometrial Ablation System (EAS), which received FDA approval in 2015. Minerva's EAS is approved for the same indication as Hologic's NovaSure system. Minerva began commercial distribution of the EAS in August 2015.

### III

In November 2015, Hologic sued Minerva in the U.S. District Court for the District of Delaware, alleging that Minerva's EAS and the use thereof infringed certain claims of the '183 and '348 patents. In addition to asserting the invalidity defenses of lack of enablement and failure to provide an adequate written description in district court, Minerva also filed petitions for IPR in the Patent Office, challenging the patentability of the asserted '183 patent claims, as well as those of the '348 patent, in view of prior art. The Board instituted review of the '183 patent, but denied review of the '348 patent.

Shortly after the district court issued its claim construction decision in April 2017, the Board issued its final written decision in the parallel IPR proceeding, holding the '183 patent claims unpatentable as obvious. *See generally Minerva Surgical, Inc. v. Hologic, Inc.*, No. IPR2016-00868, 2017 WL 6404966 (P.T.A.B. Dec. 15, 2017). Hologic appealed the Board's decision to this court.

Around the same time, Minerva requested that the district court dismiss as moot Hologic's claim for infringement of asserted claims 7, 9, 11, 13, and 14 of the '183 patent. The district court denied Minerva's request, concluding that the "patent has not been cancelled" and the Board's

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“finding is on appeal and does not have preclusive effect as to this action unless and until the appeal is resolved.” *Hologic, Inc. v. Minerva Surgical, Inc.*, 325 F. Supp. 3d 507, 519 (D. Del. 2018) (*Summary Judgment Op.*).

Hologic, for its part, moved for summary judgment that the doctrine of assignor estoppel bars Minerva from challenging the validity of the '183 and '348 patent claims in district court. The district court granted Hologic's motion for both patents. After “[c]onsidering the balance of equities and the relationship of Minerva and Truckai,” the district court found that “Truckai is in privity with Minerva” and that “assignor estoppel applies to Minerva's defenses to Hologic's patent infringement claims.” *Summary Judgment Op.*, 325 F. Supp. 3d at 524–25. Specifically, the court relied on “[u]ndisputed evidence” that Mr. Truckai founded Minerva, he “used his expertise to research, develop, test, manufacture, and obtain regulatory approval for the Minerva EAS,” his “job responsibilities as Minerva's President and CEO included bringing the accused product to market to directly compete with Hologic,” and he “executed broad assignments of his inventions to NovaCept, which was then sold to Hologic's predecessor for \$325 million.” *Id.* at 523. In addition, the district court granted summary judgment of no invalidity in Hologic's favor. The district court also granted summary judgment of infringement of the asserted '183 and '348 patent claims.

The case then proceeded to a jury trial on the issues of willful infringement, damages, and certain of Minerva's state law counterclaims. The jury found, in relevant part, that Hologic was entitled to \$4,200,529.75 in lost profits and \$587,138.48 in royalties for sales not included in lost profits—for a total award of \$4,787,668.23—based on Minerva's infringement of the '183 and '348 patent claims. Over Minerva's objection, the jury was not asked to separately apportion damages between the two patents. The jury also found that Minerva's infringement of claim 1 of the '348 patent was not willful. On August 13, 2018, the

district court entered judgment on the verdict, subject to revision pursuant to any rulings on post-trial motions. After trial, Hologic moved for a permanent injunction to enjoin Minerva from further infringement of the asserted '183 patent claims.

The '348 patent expired on November 19, 2018. Five months later, this court affirmed the Board's decision that the '183 patent claims are invalid as obvious under 35 U.S.C. § 103. *See generally Hologic, Inc. v. Minerva Surgical, Inc.*, 764 F. App'x 873 (Fed. Cir. 2019) (*Hologic*). Thereafter, the district court denied Hologic's motion for a permanent injunction as moot in light of this court's *Hologic* decision. *Hologic, Inc. v. Minerva Surgical, Inc.*, No. 15-1031, 2019 WL 1958020, at \*4 (D. Del. May 2, 2019) (*JMOL Op.*). The district court also denied Hologic's motions for supplemental damages, enhanced damages, and ongoing royalties for infringement of the asserted '183 patent claims as moot. *Id.*

With respect to the '348 patent, the district court noted Minerva's argument that the jury had not even found willful infringement, *id.* at \*2, and denied Hologic's motion for enhanced damages, finding that "the damages are adequate to compensate Hologic for infringement through the life of the patent," *id.* at \*10. It awarded Hologic supplemental damages for Minerva's continued infringement of claim 1 of the '348 patent "from the last-produced date of sales (April 1, 2018) to the date the '348 patent expired (November 19, 2018)," determined that Hologic was "entitled to recover a 16.1% royalty for [those] infringing sales," and ordered Minerva to submit an accounting of those infringing sales. *Id.* at \*10–11. The court declined, however, to award an enhanced royalty for the post-verdict sales because "Hologic has not shown that enhanced damages are warranted." *Id.* at \*10. The court also awarded Hologic \$270,533 in pre-judgment interest on the jury's damages award, and concluded that Hologic would be awarded post-judgment interest "at the legal rate from and after

August 13, 2018.” *Id.* The court denied Minerva’s motion for judgment as a matter of law of no damages or, alternatively, for a new trial on reasonable royalty damages. The court then ordered the parties to each submit a proposed final judgment consistent with its decision.

Finally, the district court addressed the impact of this court’s *Hologic* decision on the jury’s damages award and the district court’s ruling on assignor estoppel. Specifically, the district court determined that the *Hologic* decision “d[id] not affect the jury verdict” because “a finding that the method claims [of the ’183 patent] are not valid does not affect the finding of infringement as to the apparatus claim” of the ’348 patent, and the “jury’s damages determination can be adequately supported by the finding of infringement of Claim 1 of the ’348 patent.” *Id.* at \*3. The district court further held that this court’s “findings as to the ’183 patent (method claims) do not affect the [district court’s] findings of assignor estoppel on the asserted claim of the ’348 patent.” *Id.* at \*4 (footnote omitted).

In its final judgment, the district court awarded Hologic pre-judgment interest on the jury’s \$4,787,668.23 damages award “in the amount of \$270,533, plus postjudgment interest at the statutory rate of 2.44% under 35 U.S.C. § 1961(a)” in accordance with its ruling on post-trial motions. Final Judgment at 1, *Hologic, Inc. v. Minerva Surgical, Inc.*, No. 15-1031 (D. Del. June 3, 2019), ECF No. 621 (*Final Judgment*). The district court also awarded Hologic supplemental damages in the amount of \$1,629,304.08—the amount proposed by Minerva in its proposed final judgment. The district court further awarded pre-judgment interest on the supplemental damages award calculated “from the date of infringement to August 13, 2018, (D.I. 520), plus post-judgment interest thereafter at the legal rate under 28 U.S.C. § 1961 until such time as the judgment is paid.” *Id.* at 1–2.

Hologic and Minerva appeal. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

#### DISCUSSION

This case presents various issues on appeal and cross-appeal. We start by addressing the assignor estoppel issues. We then turn to Minerva’s challenge to the district court’s claim construction, Minerva’s challenge to the jury’s damages award, Hologic’s appeal of the district court’s supplemental damages award, and Hologic’s challenge to the district court’s award of pre- and post-judgment interest.

#### I

We first address Hologic’s challenge to the district court’s application of collateral estoppel based on our affirmation of the Board’s holding of invalidity of the ’183 patent claims in *Hologic*. Hologic asserts that assignor estoppel precludes Minerva from relying on this court’s *Hologic* decision to escape liability for infringement. It argues that “the final outcome of the IPR is irrelevant to the district court proceeding” and that “[t]o hold otherwise would be to hold that the America Invents Act (‘AIA’) abrogated the assignor estoppel doctrine in a district court infringement action.” Appellant’s Br. 36. Based on our precedent, we disagree.

#### A

This court first examined and affirmed the vitality of the doctrine of assignor estoppel in *Diamond Scientific Co. v. Ambico, Inc.*, 848 F.2d 1220 (Fed. Cir. 1988). We defined assignor estoppel as “an equitable doctrine that prevents one who has assigned the rights to a patent (or patent application) from later contending that what was assigned is a nullity.” *Diamond Sci.*, 848 F.2d at 1224. We explained that the “estoppel also operates to bar other parties in privity with the assignor, such as a corporation founded by the assignor.” *Id.* (citation omitted). We also cited early Supreme Court cases addressing the doctrine, including

*Westinghouse Electric & Manufacturing Co. v. Formica Insulation Co.*, 266 U.S. 342 (1924) and *Scott Paper Co. v. Marcalus Manufacturing Co.*, 326 U.S. 249 (1945). See *id.* at 1222–23. In both *Westinghouse* and *Scott Paper*, the Supreme Court carved out exceptions to the general assignor estoppel doctrine. But the Court did not abolish the doctrine.

In *Diamond Scientific*, we recognized that some courts questioned the vitality of the assignor estoppel doctrine following the Supreme Court’s decision abolishing licensee estoppel in *Lear, Inc. v. Adkins*, 395 U.S. 653, 666 (1969). See *id.* at 1223–24. We concluded, however, that nothing in *Lear* eliminated assignor estoppel and that an important distinction existed between assignors and licensees:

The public policy favoring allowing a licensee to contest the validity of the patent is not present in the assignment situation. Unlike the licensee, who, without *Lear* might be forced to continue to pay for a potentially invalid patent, the assignor who would challenge the patent has already been fully paid for the patent rights.

*Id.* at 1224.

We acknowledged the “public policy encouraging people to challenge potentially invalid patents” and “disfavoring the repression of competition by the enforcement of worthless patents,” but we nonetheless held that assignor estoppel serves important purposes. *Id.* at 1224–25. In doing so, we identified four common justifications for applying the doctrine: “(1) to prevent unfairness and injustice; (2) to prevent one [from] benefiting from his own wrong; (3) by analogy to estoppel by deed in real estate; and (4) by analogy to a landlord-tenant relationship.” *Id.* at 1224 (alteration in original) (quoting Cooper, *Estoppel to Challenge Patent Validity: The Case of Private Good Faith vs. Public Policy*, 18 Case W. Res. L. Rev. 1122 (1967)). We also emphasized the longstanding reasoning behind the doctrine

that “an assignor should not be permitted to sell something and later to assert that what was sold is worthless, all to the detriment of the assignee.” *Id.* Stated another way, “it is the implicit representation by the assignor that the patent rights that he is assigning (presumably for value) are not worthless that sets the assignor apart from the rest of the world and can deprive him of the ability to challenge later the validity of the patent.” *Id.* Thus, it “could work an injustice against the assignee” to “allow the assignor to make that representation at the time of the assignment (to his advantage) and later to repudiate it (again to his advantage).” *Id.*

Since *Diamond Scientific*, this court has continued to apply the doctrine in a variety of circumstances, often citing prevention of “unfairness and injustice” as the primary justification for its application. *See, e.g., Mentor Graphics Corp. v. EVE-USA, Inc.*, 851 F.3d 1275, 1280–83 (Fed. Cir. 2017) (affirming grant of summary judgment that a company founded by the patent’s inventors was barred from challenging the validity of the patent asserted by the inventors’ former employer and assignee); *Pandrol USA, LP v. Airboss Ry. Prods., Inc.*, 424 F.3d 1161, 1166–67 (Fed. Cir. 2005) (affirming the district court’s exclusion of an assignor-inventor’s testimony as to the invalidity of his own patent on the ground of assignor estoppel); *Mentor Graphics Corp. v. Quickturn Design Sys., Inc.*, 150 F.3d 1374, 1377–80 (Fed. Cir. 1998) (affirming grant of a preliminary injunction where the assignee showed a likelihood of success on validity based on the district court’s grant of summary judgment that the original assignor and its wholly owned subsidiary were barred from challenging validity); *Shamrock Techs., Inc. v. Med. Sterilization, Inc.*, 903 F.2d 789, 793–96 (Fed. Cir. 1990) (affirming grant of summary judgment that the patent’s inventor and the company he joined as “Vice President in charge of Operations” were barred from challenging the validity of the patent asserted by the inventor’s former employer and assignee).

Consistent with the Supreme Court’s guidance in *Westinghouse* and *Scott Paper*, however, we have recognized certain limits to the doctrine. For instance, although estopped parties “cannot challenge the validity of” the patent at issue, “assignor estoppel does not limit their ability to defend themselves in other ways,” including “arguing that the patentee is itself collaterally estopped from asserting a patent found invalid in a prior proceeding.” *Mentor Graphics*, 150 F.3d at 1379 (first citing *Blonder-Tongue Lab., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313 (1971); then citing *Foster v. Hallco Mfg. Co.*, 947 F.2d 469, 481–83 (Fed. Cir. 1991)). In addition, an estopped party “may also argue for a narrow claim construction, or that the accused devices are within the prior art and therefore cannot infringe.” *Id.* at 1380 (first citing *Westinghouse*, 266 U.S. at 351; then citing *Scott Paper*, 326 U.S. at 257–58).

## B

Based on our precedent and the limits it places on the assignor estoppel doctrine, we conclude that assignor estoppel does not preclude Minerva from relying on the *Hologic* decision to argue that the ’183 patent claims are *void ab initio*.

We are mindful of the seeming unfairness to Hologic in this situation. Although Minerva would have been estopped from challenging the validity of the ’183 patent claims in district court, it was able to challenge their validity in an IPR proceeding and, hence, circumvent the assignor estoppel doctrine. Minerva had the right to do so under the AIA and this court’s precedent. This court has held that the doctrine of assignor estoppel does not bar an assignor from filing a petition for IPR. *Arista Networks, Inc. v. Cisco Sys., Inc.*, 908 F.3d 792, 804 (Fed. Cir. 2018). In *Arista*, the patent owner argued that assignor estoppel barred the assignor-petitioner’s IPR challenge to the patent’s validity. *Id.* at 798. We interpreted the statute at issue, 35 U.S.C. § 311(a)—which provides that “a person

who is not the owner of a patent” may file an IPR—to determine whether Congress intended for assignor estoppel to apply in an IPR proceeding. *Id.* at 802–03. We concluded that the plain language of the statute was unambiguous and provided that “an assignor, who is no longer the owner of a patent, may file an IPR petition as to that patent.” *Id.* at 803.

While we understand Hologic’s predicament, we nevertheless conclude that the district court did not abuse its discretion in denying Hologic its requested injunctive and monetary relief following a finding of patent infringement. *See Robert Bosch LLC v. Pylon Mfg. Corp.*, 659 F.3d 1142, 1147 (Fed. Cir. 2011) (denial of a permanent injunction is reviewed for abuse of discretion). Generally, “when a [patent] claim is cancelled, the patentee loses any cause of action based on that claim, and any pending litigation in which the claims are asserted becomes moot.” *Fresenius USA, Inc. v. Baxter Int’l, Inc.*, 721 F.3d 1330, 1340 (Fed. Cir. 2013). Because the ’183 patent claims are invalid, Hologic cannot assert those claims or seek ongoing monetary or injunctive relief based on infringement. Our affirmance of the Board’s invalidity decision in *Hologic* is dispositive of the validity of the ’183 patent claims, regardless of how the validity question came to this court, and regardless of whether assignor estoppel bars Minerva from challenging the patent’s validity in this district court case.

Our conclusion is further supported by *XY, LLC v. Trans Ova Genetics, L.C.*, 890 F.3d 1282 (Fed. Cir. 2018), in which we addressed the impact of our concurrent affirmance of invalidity on other pending actions involving the same patent. *XY* involved an appeal from a district court’s judgment following a jury trial. *Id.* at 1285–86. Similar to this case, there was a parallel IPR proceeding involving the same patent, in which the Board had held the asserted claims invalid. *Id.* at 1294. This court held *sua sponte* that the patent owner was collaterally estopped from asserting the patent “in any further proceedings” in view of the

court's concurrent affirmance of the Board's invalidity decision. *Id.* at 1294–95. As in *XY*, this court's affirmance of the Board's invalidity decision in *Hologic* “renders final a judgment on the invalidity of the [’183 patent], and has an immediate issue-preclusive effect on any pending or co-pending actions involving the patent,” including the instant action. *Id.* at 1294.

Hologic cites *American Fence Co. v. MRM Security Systems, Inc.*, 710 F. Supp. 37 (D. Conn. 1989), as an example of how “district courts have suggested that assignor estoppel would control” in district court even when there is a determination of invalidity in an IPR. Appellant's Br. 37. Similar to this case, the assignee in *American Fence* sued the assignor and the company the assignor created for patent infringement. 710 F. Supp. at 39. The district court held that assignor estoppel prevented the defendants from challenging the validity of the patents-in-suit. *Id.* at 42. The district court also denied the defendants' request to stay the proceedings pending reexamination of one of the patents, stating that “[e]ven if upon reexamination the U.S. Patent Office finds that the . . . patent is invalid, the defendants will be unable to assert that finding” because of assignor estoppel. *Id.* But *American Fence* is not binding on this court, and the section of the opinion on which Hologic relies is contrary to *Mentor Graphics*. There, we held that even an estopped assignor may argue that “the patentee is itself collaterally estopped from asserting a patent found invalid in a prior proceeding.” *Mentor Graphics*, 150 F.3d at 1379 (citations omitted).

Accordingly, we affirm the district court's denial of Hologic's motions for a permanent injunction, enhanced damages, and ongoing royalties for Minerva's infringement of the '183 patent claims because Hologic is collaterally estopped from asserting infringement of these claims.

## II

We next consider Minerva’s assertion that the district court erred in holding that assignor estoppel precludes Minerva from challenging the validity of claim 1 of the ’348 patent. We review a district court’s application of the equitable doctrine of assignor estoppel for an abuse of discretion. *MAG Aerospace Indus., Inc. v. B/E Aerospace, Inc.*, 816 F.3d 1374, 1376 (Fed. Cir. 2016) (citing *Pandrol*, 424 F.3d at 1165). We conclude that the district court did not abuse its discretion in applying assignor estoppel here.

As an initial matter, we decline Minerva’s invitation to “abandon the doctrine” of assignor estoppel entirely. Cross-Appellant’s Br. 67. Minerva contends that the doctrine is inconsistent with *Lear*, in which the Supreme Court abolished the doctrine of licensee estoppel. Minerva argues that “[a]n assignee who seeks protection against future competition from an assignor need simply negotiate a covenant not to compete in their agreement.” *Id.* When addressing this same argument in *EVE-USA*, we declined to read *Lear* as “demolish[ing] the doctrinal underpinnings of assignor estoppel.” *EVE-USA*, 851 F.3d at 1283 (citation omitted). In *EVE-USA*, we noted that our *Diamond Scientific* decision “emphasized the continued vitality of the doctrine of assignor estoppel after *Lear*.” *Id.* (citing *Diamond Sci.*, 848 F.2d at 1222–26); *see also Arista*, 908 F.3d at 802. We similarly decline at this time to read *Lear* as eliminating the doctrine of assignor estoppel.

Although we recognize that assignor estoppel is not a “broad equitable device susceptible of automatic application,” *Diamond Sci.*, 848 F.2d at 1225–26, we agree with the district court that the equities weigh in favor of its application in this case. The facts here are analogous to those in *Diamond Scientific*, *Shamrock*, and other cases in which an inventor executes broad assignments to his employer, leaves his employer, founds or takes on a controlling role at a competing company, and is directly involved in the

alleged infringement. Minerva disputed none of the pertinent facts below or on appeal. Mr. Truckai “executed a broad assignment of his patent rights to NovaCept and later sold NovaCept to Hologic’s predecessor for \$325 million.” *Summary Judgment Op.*, 325 F. Supp. 3d at 524. Thus, NovaCept “received appreciable value” for the patents at issue. *Mentor Graphics*, 150 F.3d at 1378. Mr. Truckai then “founded Minerva” and “used his expertise to research, develop, test, manufacture, and obtain regulatory approval for the Minerva EAS.” *Summary Judgment Op.*, 325 F. Supp. 3d at 523. Mr. Truckai’s “job responsibilities as Minerva’s President and CEO included bringing the accused product to market to directly compete with Hologic.” *Id.*

Minerva also does not challenge the district court’s finding that Minerva is in privity with Mr. Truckai—the original assignor and Minerva’s founder, President, and CEO. *See Diamond Sci.*, 848 F.2d at 1224 (“[E]stoppel also operates to bar other parties in privity with the assignor, such as a corporation founded by the assignor.” (citation omitted)). Instead, Minerva contends that “Hologic is deploying assignor estoppel to shield its unwarranted expansion of the patent’s scope from the invalidity arguments created by its own overreach.” Cross-Appellant’s Br. 68. Minerva emphasizes that Hologic, not Mr. Truckai, prosecuted claim 1 of the ’348 patent. The continuation application from which the ’348 patent issued was filed in 2013, after Mr. Truckai had left NovaCept and founded Minerva. Minerva asserts that Hologic broadened the claims during prosecution and after Mr. Truckai’s assignment, and that it would be unfair to block Mr. Truckai (or Minerva) from challenging the breadth of those claims.

We find Minerva’s argument unpersuasive. In *Diamond Scientific*, we considered it “irrelevant that, at the time of the assignment,” the inventor’s “patent applications were still pending” and that assignee Diamond “may have later amended the claims in the application process (a very

common occurrence in patent prosecutions), with or without [the inventor's] assistance.” 848 F.2d at 1226. It is true, as Minerva observes, that in *Diamond Scientific* we noted that the Supreme Court “observed that the scope of the right conveyed in the assignment of patent rights before the granting of the patent ‘is much less certainly defined than that of a granted patent, and the question of the extent of the estoppel against the assignor of such an inchoate right is more difficult to determine than in the case of the patent assigned after its granting.’” *Id.* (quoting *Westinghouse*, 266 U.S. at 352–53). We also noted, however, that the Supreme Court “found it unnecessary to decide the question” and “merely suggested that ‘[t]his difference might justify the view that the range of relevant and competent evidence in fixing the limits of the subsequent estoppel should be more liberal than in the case of an assignment of a granted patent.’” *Id.* (alteration in original) (quoting *Westinghouse*, 266 U.S. at 353).

To the extent Hologic “may have broadened the claims” in the application that issued as the ’348 patent after Mr. Truckai’s assignment “beyond what could be validly claimed in light of the prior art,” the Supreme Court’s and this court’s precedents allow Minerva to “introduce evidence of prior art to narrow the scope of” claim 1 so as to bring its accused product “outside the scope of” claim 1. *Id.* (citing *Westinghouse*, 266 U.S. at 350). Thus, “[t]his exception to assignor estoppel also shows that estopping [Minerva] from raising invalidity defenses does not necessarily prevent [it] from successfully defending against [Hologic’s] infringement claims.” *Id.*

Because the district court did not abuse its discretion in applying the doctrine of assignor estoppel, we affirm the district court’s grant of summary judgment of no invalidity as to claim 1 of the ’348 patent.

## III

We next consider Minerva's challenge to the district court's constructions of two terms in claim 1 of the '348 patent. Claim construction based on the intrinsic evidence is a question of law that this court reviews de novo. *Trustees of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1362 (Fed. Cir. 2016) ("The construction of claim terms based on the claim language, the specification, and the prosecution history are legal determinations." (citing *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 328 (2015))). Minerva contends that the district court erred in its constructions of "applicator head" and "indicator mechanism" and further that Minerva's accused EAS product does not infringe under the proper constructions. Minerva requests that this court remand to the district court with instructions to enter a judgment of noninfringement. Because we discern no error in either of the court's constructions, we deny Minerva's request.

The district court construed the term "applicator head" in claim 1 of the '348 patent to mean "[a] distal end portion of an ablation device that applies energy to the uterine tissue." *Hologic, Inc. v. Minerva Surgical, Inc.*, No. 15-1031, 2017 WL 1483305, at \*2 (D. Del. Apr. 24, 2017) (*Claim Construction Op.*). The court rejected Minerva's proposed construction of "applicator head" to require "an applicator having a permeable or absorbent tissue contacting surface into which moisture is drawn." *Id.* at \*2 n.6. It noted that Minerva "presented extensive argument for reading [certain] limitations from the specification into the claims" relating to "shortcomings of the prior art methods" with respect to permeability, but concluded that "such disclosures do not rise to the level of disclaimer, sufficient to narrow the disputed claim limitation as desired by" Minerva. *Id.* We agree. Neither the claim nor the specification describes the "applicator head" as being permeable or requiring moisture removal. To be certain, the specification emphasizes the importance of moisture removal. But

neither the plain claim language “applicator head” nor the specification includes a moisture removal requirement in the applicator head. Minerva emphasizes that an embodiment of the invention includes an “electrode carrying means” formed of a material that is “permeable to moisture,” ’348 patent col. 5 ll. 52–57, but this appears to be a component of the ablation device other than the claimed “applicator head.” For all these reasons, we agree with the district court’s claim construction.

The district court construed the term “indicator mechanism” in claim 1 of the ’348 patent to mean “[a] mechanism configured to indicate a dimension.” *Claim Construction Op.*, 2017 WL 1483305, at \*3. Minerva argues, as it did below, that the court’s construction is too broad and that the term requires displaying uterine widths in “units of measure.” *Id.* at \*3 n.10. To support its broader construction, the district court relied on the second embodiment described in the specification, wherein the “ablation device . . . includes a measurement device for easily measuring the uterine width and for displaying the measured width *on a gauge.*” *Id.* at \*3 (emphasis added) (quoting ’348 patent col. 14 ll. 33–36). The district court also cited Figure 32b of the ’348 patent, which shows a “dial face” that “includes calibration markings corresponding to an appropriate *range of uterine widths.*” *Id.* (emphasis added) (quoting ’348 patent col. 14 ll. 47–49).

We adopt the district court’s construction of “indicator mechanism.” Like the district court, we are unpersuaded by Minerva’s attempt to narrow the claim scope to require a dimension. First of all, Minerva’s proposed construction is inconsistent with the plain language of claim 1. *See* ’348 patent col. 19 ll. 40–42 (reciting “an indicator mechanism operably coupled to the inner sleeve, the indicator mechanism configured to indicate a dimension of the uterus”). Moreover, we agree with the district court that “[n]othing in the specification suggests that applicant intended to limit ‘an indicator mechanism’ to devices that

solely display uterine widths in ‘units of measure.’” *Claim Construction Op.*, 2017 WL 1483305, at \*3 n.10. Accordingly, we discern no error in the district court’s claim construction.

We have considered Minerva’s additional arguments in support of its proposed claim constructions, but do not find them persuasive. Because the district court correctly construed the disputed terms in claim 1 of the ’348 patent, we affirm the district court’s grant of summary judgment of infringement.

#### IV

We turn to Minerva’s assertion that the district court erred in awarding damages to Hologic based on Minerva’s infringement of claim 1 of the ’348 patent alone, where the jury verdict did not apportion damages between the ’348 and ’183 patents and where the ’183 patent claims were held invalid following the jury verdict. We discern no reversible error in the district court’s decision.

“The general rule is that when a ‘jury was told it could rely on any of two or more independent legal theories, one of which was defective,’ the general verdict must be set aside.” *WesternGeco L.L.C. v. ION Geophysical Corp.*, 913 F.3d 1067, 1073 (Fed. Cir. 2019) (citations omitted). “In a situation—such as this one—where the jury rendered a single verdict on damages, without breaking down the damages attributable to each patent, the normal rule would require a new trial as to damages.” *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1310 (Fed. Cir. 2007) (citing *Memphis Cmty. Sch. Dist. v. Stachura*, 477 U.S. 299, 312 (1986)); see also *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1262 (Fed. Cir. 2014) (vacating the damages award upon holding the claims of one of the two patents-in-suit invalid as anticipated and noting that its decision “could warrant a new trial on damages” (citing *Verizon*, 503 F.3d at 1310)).

We have recognized, however, an exception to this general rule. A single damages award “can be sustained” if, despite the fact that some of the asserted claims were held invalid or not infringed subsequent to the award, “undisputed evidence” demonstrated that the sustained patent claim was necessarily infringed by all of the accused activity on which the damages award was based. *WesternGeco*, 913 F.3d at 1074. In such cases, “we apply a harmlessness analysis similar to our approach in the case of erroneous jury instructions.” *Id.* (citation omitted); *see also Chrimar Holding Co., LLC v. ALE USA Inc.*, 732 F. App’x 876, 886 (Fed. Cir. 2018) (holding that a new trial to determine damages on a patent-by-patent basis was unnecessary because the same royalty damages applied whether the claims of one or three asserted patents were infringed). For the reasons that follow, we conclude that a departure from the general rule is warranted in this case.

In each of *WesternGeco*, *Verizon*, and *DDR*, this court vacated the damages award and remanded to the district court to determine in the first instance whether a new trial on damages was warranted based on this court’s invalidity or noninfringement ruling. *See WesternGeco*, 913 F.3d at 1075; *Verizon*, 503 F.3d at 1310; *DDR*, 773 F.3d at 1262. By contrast, the district court in this case addressed the issue of apportionment and determined that the jury verdict on damages was “adequately supported by the finding of infringement of Claim 1 of the ’348 patent.” *JMOL Op.*, 2019 WL 1958020, at \*3. The district court’s determination is supported by undisputed evidence. Hologic’s damages expert explained to the jury that the same royalty rate he used in his damages calculation would apply to either the ’183 patent or ’348 patent, “individually or the two patents collectively,” since they “both cover the entire procedure and device respectively.” J.A. 30439 at 1084:7–25. The expert was then cross-examined about his reasoning. Thus, Hologic presented evidence to the jury that the damages award could be supported if either or both of the ’183 and

'348 patents' claims were infringed and valid. Minerva did not present any contrary evidence. Accordingly, we conclude that a departure from the general rule requiring a new trial is warranted in this case.

Minerva asserts that it asked for a jury instruction on apportionment but that its request was denied. The district court reasoned, however, that Minerva had not presented any evidence to the jury explaining why apportionment was necessary. *See* J.A. 31961–64 at 2298:4–2301:5. When asked during oral argument on appeal whether there was any evidence on apportionment other than the testimony by Hologic's expert, Minerva's counsel could not identify anything in the record. Oral Arg. at 17:35–21:19, <http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2019-2054.mp3>. Likewise, following oral argument, this court did not receive any supplemental briefing identifying any testimony or other evidence to rebut Hologic's expert's testimony.

Because Hologic's expert's testimony remains undisputed, we see no error in the district court's conclusion that the jury's royalty award should stand. We have considered Minerva's additional arguments concerning the jury's damages award, including its award of lost profits, but we do not find them persuasive. Accordingly, we affirm the district court's denial of Minerva's motion for judgment as a matter of law of no damages or, alternatively, for a new trial on reasonable royalty damages.

## V

We next consider Hologic's assertion that the district court erred in denying Hologic's requests for: (1) supplemental damages based on all of Minerva's infringing sales prior to the expiration of the '348 patent; (2) an increase in the royalty rate for post-verdict infringing sales; and (3) an enhancement of that rate under 35 U.S.C. § 284. We review a district court's decision to award or deny supplemental or enhanced damages for an abuse of discretion.

*Presidio Components, Inc. v. Am. Tech. Ceramics Corp.*, 875 F.3d 1369, 1382 (Fed. Cir. 2017) (citing *WBIP, LLC v. Kohler, Co.*, 829 F.3d 1317, 1339 (Fed. Cir. 2016)); see also *Prism Techs. LLC v. Sprint Spectrum L.P.*, 849 F.3d 1360, 1377–79 (Fed. Cir. 2017). We conclude that the district court did not abuse its discretion in its award of supplemental damages.

Hologic argues that the district court undercounted the number of infringing sales and, specifically, that the court should have included \$4.011 million from the sales of a certain “design-around” product that Minerva began selling in June 2018. Appellant’s Br. 58–59. We disagree. Hologic is not entitled to supplemental damages based on sales of products that Hologic did not accuse of infringement. Indeed, the district court on summary judgment stated that it “need not address whether Minerva’s ‘new’ handle design would infringe Hologic’s ’348 Patent” because the new product “is not alleged to be infringing Hologic’s patent.” *Summary Judgment Op.*, 325 F. Supp. 3d at 529. The jury was not asked to consider the design-around product for purposes of either infringement or determining the damages award. Thus, the district court correctly excluded sales of Minerva’s design-around product from its supplemental damages award.

Hologic next contends that the district court should have increased the royalty rate from 16.1% to 20% for infringing sales made after August 13, 2018—the date the district court entered judgment on the jury’s verdict. “[A]n assessment of prospective damages for ongoing infringement should ‘take into account the change in the parties’ bargaining positions, and the resulting change in economic circumstances, resulting from the determination of liability.’” *ActiveVideo Networks, Inc. v. Verizon Commc’ns, Inc.*, 694 F.3d 1312, 1343 (Fed. Cir. 2012) (quoting *Amado v. Microsoft Corp.*, 517 F.3d 1353, 1362 (Fed. Cir. 2008)). Here, the jury did not make any “determination of liability.” *Id.* Instead, the district court entered summary judgment of

infringement and thus it, rather than the jury, made the “determination of liability.” We agree with Minerva that no change in the parties’ bargaining positions or economic circumstances could have “result[ed] from the determination of liability” between the jury’s verdict and the district court’s ruling on post-trial motions because no determination of liability occurred during that time period. *Id.* Thus, the district court did not abuse its discretion in declining to increase the royalty rate for ongoing royalties for infringement of claim 1 of the ’348 patent.

Lastly, Hologic contends that the district court should have enhanced the royalty rate for the supplemental damages from 20% to 30% pursuant to § 284. District courts have discretion to “increase the damages up to three times the amount found or assessed.” 35 U.S.C. § 284. “Enhanced damages are generally only appropriate in egregious cases of misconduct, such as willful, wanton, or malicious behavior.” *Presidio*, 875 F.3d at 1382 (citing *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923, 1932 (2016)). An award of enhanced damages, however, “does not necessarily flow from a willfulness finding.” *Id.* (first citing *Halo*, 136 S. Ct. at 1932; then citing *WBIP*, 829 F.3d at 1341 n.13). Rather, “[d]iscretion remains with the court to determine whether the conduct is sufficiently egregious to warrant enhanced damages,” and “courts should consider the overall circumstances of the case.” *Id.* (first citing *WBIP*, 829 F.3d at 1341 n.13; then citing *Halo*, 136 S. Ct. at 1933).

Here, the jury determined that Minerva did not willfully infringe claim 1 of the ’348 patent. Additionally, there was neither a finding by the district court of any post-verdict willful infringement, nor a request by Hologic that the district court make such a finding. Contrary to Hologic’s assertion, a district court is not required to award enhanced damages absent a finding of willful infringement. Nor is it required to discuss the factors set forth in *Read Corp. v. Portec, Inc.*, 970 F.2d 816 (Fed. Cir. 1992), in

deciding whether to award enhanced damages absent a finding of willful infringement. *See Presidio*, 875 F.3d at 1382. Moreover, we are not persuaded by Hologic’s unsupported assertion, raised for the first time during oral argument, that the *Read* factors supplant a willfulness finding in the post-verdict context. *See Oral Arg.* at 8:26–9:33. Thus, the district court did not abuse its discretion in declining to enhance the royalty rate for ongoing royalties for infringement of claim 1 of the ’348 patent.

For all these reasons, we affirm the district court’s decision regarding supplemental damages.

## VI

Finally, we hold that the district court erred by using an incorrect judgment date in its calculation of pre- and post-judgment interest on the supplemental damages award.

We apply regional circuit law in reviewing a determination of pre- and post-judgment interest on a damages award. *Taltech Ltd. v. Esquel Enters. Ltd.*, 604 F.3d 1324, 1335 (Fed. Cir. 2010). The Third Circuit reviews such determinations de novo. *Addie v. Kjaer*, 836 F.3d 251, 258 (3d Cir. 2016). The relevant statutory provision, 28 U.S.C. § 1961(a), provides that “[i]nterest shall be allowed on any money judgment in a civil case recovered in a district court,” and that “[s]uch interest shall be calculated from the date of the entry of the judgment, at a rate equal to the weekly average 1-year constant maturity Treasury yield, as published by the Board of Governors of the Federal Reserve System, for the calendar week preceding [ ] the date of the judgment.” 28 U.S.C. § 1961(a). Generally, “post-judgment interest on a particular award only starts running when a judgment quantifying that award has been entered.” *Travelers Cas. & Sur. Co. v. Ins. Co. of N. Am.*, 609 F.3d 143, 175 (3d Cir. 2010) (citation omitted).

In its May 2, 2019 ruling on post-trial motions, the district court determined that Hologic was entitled to supplemental damages and ordered Minerva to “submit an accounting of infringing sales from April 1, 2018, to November 19, 2018.” *JMOL Op.*, 2019 WL 1958020, at \*10–11. In its opinion, however, the court did not quantify the amount of supplemental damages to which Hologic was entitled. Pursuant to § 1961(a), both parties then submitted proposed final judgments requesting that interest on the supplemental damages award be calculated from the “date of entry of this Final Judgment.” J.A. 36251, 36259. Contrary to Minerva’s assertion, in its submission to the district court, Hologic did not propose an August 13, 2018 date as the relevant date for interest on the *supplemental* damages award. Instead, it proposed August 13, 2018 as the relevant date for interest on the *jury’s* damages award. *See* J.A. 36251.

The district court’s final judgment specifies August 13, 2018 as the date for awarding pre- and post-judgment interest for supplemental damages for the ’348 patent. *Final Judgment* at 1–2 (entering judgment in favor of Hologic for “supplemental damages for Minerva’s infringing sales from April 1, 2018, through August 13, 2018, plus prejudgment interest on that amount at the prime rate compounded quarterly from the date of infringement to *August 13, 2018*, (D.I. 520), plus post-judgment interest thereafter at the legal rate under 28 U.S.C. § 1961 until such time as the judgment is paid” (emphasis added)). The “judgment quantifying [the supplemental damages] award,” however, was not entered until June 3, 2019—the date of the final judgment. *Travelers*, 609 F.3d at 175. We agree with Hologic that the district court should have used June 3, 2019 as the relevant date for awarding pre- and post-judgment interest.

We conclude that the district court erred in determining the relevant date for calculating pre- and post-judgment interest on the supplemental damages award. We

therefore vacate the district court's interest award and remand for the district court to award pre-judgment interest on the supplemental damages award from the date of infringement to June 3, 2019, and post-judgment interest thereafter.

#### CONCLUSION

For the foregoing reasons, we affirm the district court's denial of Hologic's motions for a permanent injunction, enhanced damages, and ongoing royalties for infringement of the asserted '183 patent claims. We also affirm its denial of Hologic's requests for supplemental damages to include Minerva's redesigned product, and for increased and enhanced supplemental damages. Finally, we affirm the district court's summary judgment of no invalidity and infringement, summary judgment that assignor estoppel bars Minerva from challenging the validity of the asserted '348 patent claim, and denial of Minerva's motion for judgment as a matter of law of no damages or, alternatively, for a new trial on reasonable royalty damages.

We vacate the district court's award of pre- and post-judgment interest on the supplemental damages award, and remand for the district court to calculate the interest award in accordance with this decision.

#### **AFFIRMED-IN-PART, VACATED-IN-PART, AND REMANDED**

#### COSTS

No costs.

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

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**HOLOGIC, INC., CYTYC SURGICAL PRODUCTS,  
LLC,**  
*Plaintiffs-Appellants*

v.

**MINERVA SURGICAL, INC.,**  
*Defendant-Cross-Appellant*

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2019-2054, 2019-2081

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STOLL, *Circuit Judge*, additional views.

I write separately to highlight and question the peculiar circumstance created in this case by this court's precedent, which the panel is bound to follow. In *Arista*, we held that the judge-made doctrine of assignor estoppel does not apply in the context of an inter partes review. In other words, an assignor who sold his patent rights may file a petition for IPR challenging the validity of that patent. *Arista Networks, Inc. v. Cisco Sys., Inc.*, 908 F.3d 792, 803–04 (Fed. Cir. 2018). At the same time, we continue to bar assignors from challenging in district court the validity of the patents they assigned. *See, e.g., Mentor Graphics Corp. v. EVE-USA, Inc.*, 851 F.3d 1275, 1280–83 (Fed. Cir. 2017). Our precedent thus presents an odd situation where an assignor can circumvent the doctrine of assignor estoppel by attacking the validity of a patent claim in the Patent Office, but cannot do the same in district court. Do the principles underlying assignor estoppel—unfairness in allowing one

who profited from the sale of the patent to attack it—apply in district court but not in Patent Office proceedings? Should we change the application of the doctrine in district court, or should we revisit our construction of the America Invents Act and reevaluate our interpretation of the statute as prohibiting the doctrine of assignor estoppel?

Given the odd circumstance created in this case, I suggest that it is time for this court to consider en banc the doctrine of assignor estoppel as it applies both in district court and in the Patent Office. We should seek to clarify this odd and seemingly illogical regime in which an assignor cannot present any invalidity defenses in district court but can present a limited set of invalidity grounds in an IPR proceeding.<sup>1</sup>

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<sup>1</sup> A petitioner in an IPR proceeding may request to cancel as unpatentable one or more claims of a patent, but “only on a ground that could be raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications.” 35 U.S.C. § 311(b).