United States Court of Appeals for the Federal Circuit

HARRIS BRUMFIELD, TRUSTEE FOR ASCENT TRUST.

Plaintiff-Appellant

 $\mathbf{v}.$

IBG LLC, INTERACTIVE BROKERS LLC,

Defendants-Appellees

2022-1630

Appeal from the United States District Court for the Northern District of Illinois in No. 1:10-cv-00715, Judge

Virginia M. Kendall.

Decided: March 27, 2024

MICHAEL DAVID GANNON, Baker & Hostetler LLP, Chicago, IL, argued for plaintiff-appellant. Also represented by Jennifer Kurcz, Leif R. Sigmond, Jr.; Alaina Lakawicz, Philadelphia, PA.

STEFFEN NATHANAEL JOHNSON, Wilson, Sonsini, Goodrich & Rosati, PC, Washington, DC, argued for defendants-appellees. Also represented by Kelsey Curtis; Granville Clayton Kaufman, Natalie J. Morgan, San Diego, CA; Michael Brett Levin, Palo Alto, CA; Michael S. Sommer, New York, NY; Naoya Son, Los Angeles, CA.

Before Prost, Taranto, and Hughes, *Circuit Judges*. Taranto, *Circuit Judge*.

Trading Technologies International, Inc. (TT)—whose successor is the plaintiff-appellant named in the caption—brought this action against IBG LLC and its subsidiary Interactive Brokers LLC (together, IBG) in 2010 in the Northern District of Illinois, alleging infringement of several TT-owned patents. Four of TT's patents are at issue in this appeal: U.S. Patent Nos. 6,766,304 (issued July 20, 2004); 6,772,132 (issued August 3, 2004); 7,676,411 (issued March 9, 2010); and 7,813,996 (issued October 12, 2010). The district court held the asserted claims of the '411 and '996 patents invalid, and a jury found the asserted claims of the '304 and '132 patents infringed (and not proved invalid for obviousness) and awarded \$6,610,985 in damages, resulting in the final judgment now before us.

Only TT, not IBG, appeals. TT challenges three rulings of the district court. First, on cross-motions for summary judgment, the district court held that the asserted claims of the '411 and '996 patents were invalid under 35 U.S.C. § 101, while rejecting the § 101 challenge to the asserted claims of the '304 and '132 patents (with the resulting trial limited to a subset of such claims). *Trading Technologies International, Inc. v. IBG, LLC*, No. 10 C 715, 2021 WL

¹ Plaintiff-Appellant Harris Brumfield was the primary investor in and majority shareholder of TT, which was sold in December 2021, with the rights to the patents here at issue assigned to a trust, Ascent Trust. Mr. Brumfield, as the sole trustee for Ascent Trust, was then substituted for TT as the plaintiff in this action. Like the parties and the district court, we refer throughout to plaintiff-appellant as Trading Technologies (TT).

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2473809, at *5, *7 (N.D. Ill. June 17, 2021) (101 Opinion). Second, the district court, acting under Federal Rule of Evidence 702, excluded one of the damages theories, concerning foreign activities, proposed by TT's damages expert. Trading Technologies International, Inc. v. IBG LLC, No. 10 C 715, 2021 WL 5038754, at *2 (N.D. Ill. July 23, 2021) (FRE 702 Opinion). Third, the district court denied TT's post-verdict motion for a new trial on damages, a motion in which TT alleged that IBG had misrepresented, by statement or omission, how it was calculating the damages figures it presented to the jury. Brumfield, Trustee for Ascent Trust v. IB LLC, 586 F. Supp. 3d 827, 830–31 (N.D. Ill. 2022) (Post-Trial Opinion)

We reject TT's challenges. We therefore affirm.

Ι

A

The four patents before us have materially the same specification: The application that issued as the '132 patent is the ancestor of the other three patents (so we cite only the specification of the '132 patent). The specification describes assertedly improved graphical user interfaces for commodity trading and methods for placing trade orders using those interfaces. '132 patent, col. 3, lines 11–20. The specification asserts that the improved interfaces allow traders to place orders "quickly and efficiently" in volatile markets where speed is important. *Id.*, col. 3, line 10; *see id.*, col. 2, lines 1–41.

The claims of the patents differ somewhat, including in a respect that plays a role in the analysis of patent eligibility under § 101 as that issue is presented to us. The asserted claims of the two patents from 2004 involve an interface that, in the words of the '304 patent, has a "common *static* price axis" along which (changing) bids and asks are displayed. '304 patent, col. 12, lines 41–54 (emphasis added). The language of the asserted claims of the '132

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patent is similar, requiring a "dynamic display of a plurality of bids and a plurality of asks" in a commodity market, "the dynamic display being aligned with a *static* display of prices corresponding thereto, wherein the static display of prices does *not* move in response to a change in the inside market," '132 patent, col. 12, lines 8–15 (emphases added), where "the 'inside market' is the highest bid price and the lowest ask price," *id.*, col. 4, lines 58–60.

The two patents from 2010 are different. The '411 patent, in its claims, requires simply a "price axis," with no requirement that it be static. '411 patent, col. 12, lines 30-39. The same is true, based on claim construction, for the '996 patent. Although that patent's claims use the phrase "static price axis," the district court, at TT's urging, construed that phrase in the '996 patent to include price axes that can be moved in response to "a re-centering or re-positioning" command, which can be issued automatically rather than by the user. Trading Technologies International, Inc. v. IBG LLC, No. 10 C 715, 2019 WL 6609428, at *2-4 (N.D. Ill. Dec. 5, 2019). In doing so, the district court noted, based on the '996 patent's prosecution history, that "static' in the '996 [p]atent was to be understood in a broader sense than the '132 and '304 [platents." Id. at *3; see TT's Opening Br. at 5–6.

The following claims are representative for purposes of the present appeal—two claims to a method, two to a computer readable medium hosting code for execution:

'304 patent, claim 27. A computer readable medium having program code recorded thereon for execution on a computer for displaying market information relating to and facilitating trading of a commodity being traded in an electronic exchange having an inside market with a highest bid price and a lowest ask price on a graphical user interface, the program code causing a machine to perform the following steps:

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dynamically displaying a first indicator in one of a plurality of locations in a bid display region, each location in the bid display region corresponding to a price level along a common static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the highest bid price currently available in the market;

dynamically displaying a second indicator in one of a plurality of locations in an ask display region, each location in the ask display region corresponding to a price level along the common static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the lowest ask price currently available in the market;

displaying the bid and ask display regions in relation to fixed price levels positioned along the common static price axis such that when the inside market changes, the price levels along the common static price axis do not move and at least one of the first and second indicators moves in the bid or ask display regions relative to the common static price axis;

displaying an order entry region comprising a plurality of locations for receiving commands to send trade orders, each location corresponding to a price level along the common static price axis; and

in response to a selection of a particular location of the order entry region by a single action of a user input device, setting a plurality of parameters for a trade order

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relating to the commodity and sending the trade order to the electronic exchange.

'304 patent, col. 14, line 47, through col. 15, line 17.

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'132 patent, claim 1. A method for placing a trade order for a commodity on an electronic exchange having an inside market with a highest bid price and a lowest ask price, using a graphical user interface and a user input device, said method comprising:

setting a preset parameter for the trade order[;]

displaying market depth of the commodity, through a dynamic display of a plurality of bids and a plurality of asks in the market for the commodity, including at least a portion of the bid and ask quantities of the commodity, the dynamic display being aligned with a static display of prices corresponding thereto, wherein the static display of prices does not move in response to a change in the inside market;

displaying an order entry region aligned with the static display prices comprising a plurality of areas for receiving commands from the user input devices to send trade orders, each area corresponding to a price of the static display of prices; and

selecting a particular area in the order entry region through single action of the user input device with a pointer of the user input device positioned over the particular area to set a plurality of additional parameters for the trade order and send the trade order to the electronic exchange.

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'132 patent, col. 12, lines 2–26.

'411 patent, claim 1. A method of displaying market information relating to and facilitating trading of a commodity being traded on an electronic exchange, the method comprising:

receiving, by a computing device, market information for a commodity from an electronic exchange, the market information comprising an inside market with a current highest bid price and a current lowest ask price;

displaying, via the computing device, a bid display region comprising a plurality of graphical locations, each graphical location in the bid display region corresponding to a different price level of a plurality of price levels along a price axis;

displaying, via the computing device, an ask display region comprising a plurality of graphical locations, each graphical location in the ask display region corresponding to a different price level of the plurality of price levels along the price axis;

dynamically displaying, via the computing device, a first indicator representing quantity associated with at least one trade order to buy the commodity at the current highest bid price in a first graphical location of the plurality of graphical locations in the bid display region, the first graphical location in the bid display region corresponding to a price level associated with the current highest bid price;

upon receipt of market information comprising a new highest bid price, moving the first indicator relative to the price axis to a second graphical location of the plurality of graphical locations in the bid display region, the second graphical location corresponding to a price level of the plurality of price levels associated with the new highest bid price, wherein the second graphical location is different from the first graphical location in the bid display region;

dynamically displaying, via the computing device, a second indicator representing quantity associated with at least one trade order to sell the commodity at the current lowest ask price in a first graphical location of the plurality of graphical locations in the ask display region, the first graphical location in the ask display region corresponding to a price level associated with the current lowest ask price;

upon receipt of market information comprising a new lowest ask price, moving the second indicator relative to the price axis to a second graphical location of the plurality of graphical locations in the ask display region, the second graphical location corresponding to a price level of the plurality of price levels associated with the new lowest ask price, wherein the second graphical location is different from the first graphical location in the ask display region;

displaying, via the computing device, an order entry region comprising a plurality of graphical areas for receiving single action commands to set trade order prices and send trade orders, each graphical area

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corresponding to a different price level along the price axis; and

selecting a particular graphical area in the order entry region through a single action of the user input device to both set a price for the trade order and send the trade order having a default quantity to the electronic exchange.

'411 patent, col. 12, line 23, through col. 13, line 16.

'996 patent, claim 1. A computer readable medium having program code recorded thereon for execution on a computer having a graphical user interface and a user input device, the program code causing a machine to perform the following method steps:

receiving market information for a commodity from an electronic exchange, the market information comprising an inside market with a current highest bid price and a current lowest ask price;

receiving an input from a user that designates a default quantity to be used for a plurality of trade orders;

dynamically displaying a first indicator in one of a plurality of locations in a bid display region, each location in the bid display region corresponding to a price level along a static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the current highest bid price;

dynamically displaying a second indicator in one of a plurality of locations in an ask display region, each location in the ask display region corresponding to a price level along the static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the current lowest ask price;

displaying the bid and ask display regions in relation to a plurality of price levels arranged along the static price axis such that when the inside market changes, the price levels along the static price axis do not change positions and at least one of the first and second indicators moves in the bid or ask display regions relative to the static price axis;

displaying an order entry region aligned with the static price axis comprising a plurality of areas for receiving commands from the user input device to send trade orders, each area corresponding to a price level of the static price axis; and

receiving a plurality of commands from a user, each command sending a trade order to the electronic exchange, each trade order having an order quantity based on the default quantity without the user designating the default quantity between commands, wherein each command results from selecting a particular area in the order entry region corresponding to a desired price level as part of a single action of the user input device with a pointer of the user input device positioned over the particular area to both set an order price parameter for the trade order based on the desired price level and send the trade order to the electronic exchange.

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'996 patent, col. 11, line 45, through col. 12, line 24.

В

TT sued IBG for infringement of the four patents we have identified, asserting various claims—some claiming a method, some a system, and some "a computer readable medium having program code recorded thereon for execution on a computer" (e.g., '304 patent, claim 27, quoted supra). As relevant for present purposes, the instrument of the alleged infringement was the BookTrader module (trading tool) that is part of IBG's Trader Workstation Platform (TWS), software that traders load onto their computers and use for buying and selling on exchanges, such as commodities exchanges. IBG released TWS BookTrader a few months before the '304 patent issued in July 2004 (the '132 patent issued the next month and the '411 and '996 patents in 2010). TT alleged that IBG infringed the '304 and '132 patents via TWS BookTrader starting as soon as those patents issued, and those allegations went to trial. The BookTrader tool also was part of a different IBG product called WebTrader (for use on the world wide web), but WebTrader was involved only in the claims that IBG infringed claims of the '411 and '996 patents—which, as will be described, were held invalid.

We describe the three rulings of the district court that are at issue on appeal, though not in chronological order.

1

In June 2021, on cross-motions for summary judgment on the § 101 eligibility of the four patents' asserted claims, the district court conducted the two-step analysis described in *Alice Corp. v. CLS Bank International*, 573 U.S. 208 (2014), and ruled partly for TT and partly for IBG. 101 Opinion, 2021 WL 2473809, at *1, *6–7. The court first rejected IBG's § 101 challenge to the '304 and '132 patents' claims. *Id.* at *5. The court discussed our nonprecedential decision in *Trading Technologies International*, *Inc. v.*

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CQG, Inc., in which we upheld claims of the '304 and '132 patents against a § 101 challenge (asserted by CQG), reasoning that the claims are "directed to a specific implementation of a solution to a problem in the software arts." 675 F. App'x 1001, 1006 (Fed. Cir. 2017) (CQG) (quoting Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1339 (Fed. Cir. 2016)). The district court saw no persuasive reason to draw a different conclusion here, though the record is somewhat different. 101 Opinion, 2021 WL 2473809, at *5. IBG does not appeal the district court's rejection of its § 101 challenge to the asserted claims of the '304 and '132 patents.

Moving to the '411 and '996 patents, the district court held the asserted claims of those patents to be invalid because they claim subject matter that is ineligible for patenting under § 101. *Id.* at *5–7. The court stressed that those claims are broader than those of the '304 and '132 patents (in that they do not preclude automatic movement of the price axis) and reasoned that TT had failed to explain how these broader claims provide a specific solution to the problem solved by the '304 and '132 patents. *Id.* at *6. Given the difference, the court concluded that the '411 and '996 patents' claims amount to nothing more than "the abstract idea of placing orders on an electronic exchange." 101 Opinion, 2021 WL 2473809, at *6. In so ruling, the court pointed to our non-precedential decision in another case between TT and IBG, Trading Technologies International, Inc. v. IBG LLC, 767 F. App'x 1006 (Fed. Cir. 2019), in which we agreed with a § 101 challenge to claims of U.S. Patent No. 7.693,768, which is a descendant of the '132 patent and whose claims call simply for a price axis, not a static price axis.

The court also rejected TT's contention that another nonprecedential decision of this court, *IBG LLC v. Trading Technologies International, Inc.*, 757 F. App'x 1004 (Fed. Cir. 2019) (*IBG I*), justified rejecting the § 101 challenge here. In *IBG I*, we held that the four patents at issue in the present case did not qualify for Covered Business

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Method (CBM) review under § 18 of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, 329–31 (2011) (AIA), so we did not reach the § 101 merits. IBG I, 757 F. App'x at 1007–08. We reasoned that our earlier holding of eligibility as to the '304 and '132 patents in CQG implied that those patents did not qualify for CBM review. Id. We then stated, with no elaboration, that we saw "no meaningful difference" on the CBM-qualification issue for the '411 and '996 patents, though there was no predicate decision of eligibility for those patents, and that we were not reaching the § 101 issue. Id. at 1008. In the present case, the district court concluded that, although "the inquiries under CBM review and § 101 eligibility are related," the CBM determination did "not dictate a finding of § 101 eligibility here." 101 Opinion, 2021 WL 2473809, at *7.

TT's case on infringement of the '304 and '132 patents eventually went to trial, and that trial involved only method and "computer readable medium" (CRM) claims: five method claims (1, 12, 15, 17, and 22) and one CRM claim (27) of the '304 patent, and three method claims (1, 7, and 25) and two CRM claims (8 and 51) of the '132 patent. Earlier in the case, TT had asserted a larger set of claims, including some system claims, but we need not consider any system claims in addressing the two issues presented on appeal concerning the '304 and '132 patents because TT does not seek to revive any system claims. See TT's Opening Br. at 48, 66 (seeking new trial only on damages for these patents).

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In 2020, before the § 101 ruling, IBG moved to exclude certain proposed testimony of TT's damages expert, Catherine Lawton, under Federal Rule of Evidence 702. In July 2021, not long before the trial, the district court ruled on the motion. The court allowed much of Ms. Lawton's proposed testimony, but it excluded proposed testimony

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advancing one particular basis for Ms. Lawton's proposed amount of damages, a basis tied to activities of foreign users of TWS BookTrader. *FRE 702 Opinion*, 2021 WL 5038754, at *2.

Before describing that ruling, we describe another ruling (issued during briefing on the Rule 702 motion and ultimately relied on in the FRE 702 Opinion) on a related IBG motion—in which IBG sought summary judgment of no direct or indirect infringement of the asserted claims (of all four patents, at the time) based on activities of foreign users of the TWS BookTrader trading tool.² Trading Technologies International, Inc. v. IBG LLC, No. 10 C 715, 2020 WL 7408745 (N.D. Ill. Dec. 17, 2020) (Partial SJ Opinion). The district court, in the Partial SJ Opinion, explained what it deemed a materially undisputed fact about foreign users of TWS BookTrader: "a user located in a different country downloads the TWS software platform to her computer located in that country and uses a mouse and a monitor located in that country to place orders and send them to the exchange" where the trades occur. Id. at *1. The district court then ruled on whether there was a triable issue of fact as to whether IBG, or its foreign users through their activities involving TWS BookTrader, met the domestic-act requirement of 35 U.S.C. § 271(a), producing direct or indirect infringement. At the time, TT was asserting method claims, system claims, and CRM claims.

In answering that question, the court treated together the method and system claims of the patents, as to which IBG's motion was unopposed by TT, and granted "summary judgment related to infringement of the method and

² When IBG moved for partial summary judgment regarding foreign users, the WebTrader product, involved in the allegations of infringement of the '411 and '996 patents, was still in the case, but IBG's motion addressed only the TWS product.

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system claims caused by the activities of foreign users." *Id.* at *2. But the court denied the motion with respect to the CRM claims of the patents. *See* '304 patent, col. 14, lines 47–48 (claim 27; all other claims are method claims); '132 patent, col. 12, lines 52–53 (claims 8–13, 30–39, 51; all other claims are either method or system claims). Based on the allegations about foreign users' downloading of TWS from U.S. servers and entry into a "Customer Agreement," the court concluded that the parties genuinely disputed facts that might establish domestic infringement—*i.e.*, concerning whether IBG was selling (or offering to sell) its BookTrader product to foreign users and, if so, whether it was doing so domestically. *Id.* at *2–4. That summary judgment ruling has not been appealed.

The district court relied on that ruling in addressing IBG's damages-evidence motion. Ms. Lawton proposed as damages not an award of lost profits suffered by TT, but a reasonable royalty for IBG's infringing activities, J.A. 87413—based on a hypothetical negotiation on July 20, 2004, the day the '304 patent issued (to be followed two weeks later by issuance of the '132 patent), J.A. 87658. Specifically, she proposed a royalty structured as a peruser, per-month royalty—for each month, starting from the July 20, 2004 issuance of the earliest patent, TT would receive a fixed amount per active user of IBG's accused prod-J.A. 87414–15, 87942, 87963. In her proposed damages calculation, Ms. Lawton included foreign active users of TWS, identifying four bases (of different scope) for such inclusion. FRE 702 Opinion, 2021 WL 5038754, at *2; J.A. 87843-44.

The district court allowed the proposed testimony as to two of the asserted bases: "making a copy of the accused products via a server located in the United States"; and "sale of the accused products in the United States via the user's entry into a Customer Agreement." FRE 702 Opinion, 2021 WL 5038754, at *2. The court explained that it had already concluded, in its Partial SJ Opinion, that

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those two bases, if the allegations of fact were proved, could establish domestic infringement. *FRE 702 Opinion*, 2021 WL 5038754, at *2. The district court disallowed the two other asserted bases, one that is not at issue on appeal and one that is. Id. at *2–3.3

The currently disputed disallowed basis was, in Ms. Lawton's words, IBG's "making' the accused products in the United States with foreign damages." J.A. 87844, 87851 (capitalization removed); see FRE 702 Opinion, 2021 WL 5038754, at *2. Regarding the "making the accused product" phrase, Ms. Lawton stated that the TWS software was "designed and made" and "developed" in the United States, J.A. 87851–52, having previously stated that "BookTrader is the Accused Product and is included in every version of TWS and WebTrader," J.A. 87793. Regarding the "foreign damages" phrase, she opined, as relevant here, that TT should receive compensation (damages) for the foreign users' use of copies of TWS. J.A. 87851–52. She proposed inclusion, in the per-user, per-month royalty, of all foreign active users in a given month (from July 20, 2004), with no refinement to narrow the pool to any identified subgroups of such foreign active users, J.A. 87837, because, she opined, IBG deliberately markets the TWS software worldwide. J.A. 87853–54. She rested that proposal on her "understand[ing] that TT is entitled to worldwide patent damages for harm that is the foreseeable and but-for result of infringement in the United States." J.A. 87851.

³ The disallowed basis that is not on appeal involved foreign users' "use of the accused products in the United States." *FRE 702 Opinion*, 2021 WL 5038754, at *2. The district court disallowed that basis for want of evidence that "foreign users" engaged in such use. *Id.* at *3 (emphasis added). TT does not challenge that ruling on appeal.

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IBG moved to exclude that damages basis as impermissibly resting on an incorrect view of the governing law. IBG argued that "Ms. Lawton's worldwide damages opinion improperly includes foreign users with no link to any alleged US infringing activities" (capitalization removed), invoking the principle that "[i]t is axiomatic that U.S. patent law does not operate extraterritorially to prohibit patent infringement abroad[,]' and it 'do[es] not thereby provide compensation for a defendant's foreign exploitation of a patented invention, which is not infringement at all." 85143 (second and third alteration in original) (quoting Power Integrations, Inc. v. Fairchild Semiconductor International, Inc., 711 F.3d 1348, 1370-71 (Fed. Cir. 2013)). Ms. Lawton's reliance on a foreseeability-plus-but-forcause standard, IBG contended, was contrary to law. J.A. 85146, 85148. TT responded that the proposal was legally permissible based on WesternGeco LLC v. ION Geophysical Corp., 585 U.S. 407 (2018), though WesternGeco involved lost-profits, not reasonable-royalty, damages, and involved infringement under 35 U.S.C. § 271(f)(2), not under § 271(a). J.A. 88406–11; see J.A. 87851 (Ms. Lawton's expert report invoking WesternGeco). TT, like Ms. Lawton, focused on IBG's domestic designing and programming of TWS BookTrader when discussing the "making" identified in this basis for damages, and on the assertion that IBG "markets and distributes/licenses its BookTrader tool to a worldwide audience." J.A. 88411-12.

The district court agreed with IBG, excluding the evidence as "premised on a misapplication of controlling law." *FRE 702 Opinion*, 2021 WL 5038754, at *2. The district court understood *WesternGeco* to hold that "a patent owner claiming infringement under 35 U.S.C. § 271(f)(2) may recover lost foreign profits proximately caused by domestic infringement." *Id.* (quoting 585 U.S. at 417). The district court reasoned, however, that it was unclear what *Western-Geco* implies about "the present case involving infringement under § 271(a) and reasonable royalty damages." *Id.*

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The district court therefore concluded that the controlling law for this case continued to be found in *Power Integrations*, which involved damages for § 271(a) infringement (though, like *WesternGeco*, it involved an issue about lost profits, not reasonable royalties). *Id.* (citing *Power Integrations*, 711 F.3d at 1371, for the proposition that "[g]enerally, even after establishing one or more acts of infringement in the United States, a patentee may not recover damages for worldwide sales of the patented invention on the theory that 'those foreign sales were the direct foreseeable result of [the infringer's] domestic infringement" (second alteration in original)).

The "making the accused product" basis of damages was therefore excluded at trial, but TT was permitted to present its evidence based on the making of a copy for the foreign user via a domestic server and the making of a domestic sale via a Customer Agreement between the foreign user and IBG. The jury found infringement, rejected the remaining validity challenges, and awarded damages of \$6,610,985. In its post-trial opinion, the district court reiterated its exclusion of the disputed damages basis. *Post-Trial Opinion*, 586 F. Supp. 3d at 839–40.

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The third ruling before us on appeal is the post-trial ruling concerning the damages evidence and argument submitted by IBG (not TT). At trial in 2021, TT argued that IBG had directly infringed, or induced others to infringe, method claims and CRM claims of the '132 and '304 patents based on the TWS BookTrader trading tool. Of significance for purposes of the third ruling on appeal to us, not all users of TWS use the BookTrader feature, which was the only accused feature of TWS. For present purposes, we accept that the jury award of \$6,610,985 corresponds to the total put forth by IBG at a royalty rate measured by domestic usage, rather than global monthly users: 10 cents per commodity-futures unit sold by users in

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the United States via the accused BookTrader module only. By contrast, TT's global monthly user royalty, which included all TWS users regardless of whether they used BookTrader, summed to \$962,440,850 over the period of infringement.

After the trial, TT moved for a new trial on damages and post-trial damages discovery under Federal Rules of Civil Procedure 59(a)(1)(A) and 60(b)(3), alleging that IBG had withheld information during discovery and presented false testimony at trial on how, in IBG's own calculation of damages, it was counting units sold via BookTrader. J.A. 93233; *Post-Trial Opinion*, 586 F. Supp. 3d at 833–34. TT argued essentially that IBG was undercounting the number of units traded using BookTrader by not counting units traded using a combination of BookTrader and another TWS feature, despite representing otherwise to TT and to the jury. J.A. 93233–34, 93239, 103633–34. The district court denied the motion.

The district court stated that such misrepresentation, if it had occurred, could form the basis for a new trial under either Rule 59 or Rule 60. *Post-Trial Opinion*, 586 F. Supp. 3d at 833–34. The district court determined, however, that TT had not justified the granting of the new-trial or discovery relief it sought. The court ruled that TT had not shown that IBG had either withheld information during discovery or presented false testimony on how it was counting units traded. *Id.* at 837–38. The court also rejected TT's claim for relief based on TT's assertion that it reached its new understanding of IBG's damages calculation only because of information newly presented at trial, explaining that TT had access even before trial to the information necessary to reach that new understanding. *Id.*

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The district court denied TT's motion for a new trial on February 22, 2022. TT timely filed a notice of appeal. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

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TT challenges three rulings: the district court's grant of summary judgment of invalidity of the asserted claims of the '411 and '996 patents, the district court's exclusion of one basis for recovering "foreign damages," and the district court's denial of TT's motion for a new damages trial. We address those challenges in turn.

П

We agree with the district court that the asserted claims of the '411 and '996 patents claim ineligible subject matter. In this case, where we see no legally material facts in dispute, we decide the § 101 issue de novo. See International Business Machines Corp. v. Zillow Group, Inc., 50 F.4th 1371, 1376–77 (Fed. Cir. 2022).

Α

The asserted claims of the '411 and '996 patents are directed to abstract ideas, and they add nothing (no inventive concept) that transforms them into claims to eligible subject matter. Under the two-step analysis of *Alice*, the claims are therefore invalid under § 101. We drew the same conclusion in two precedential decisions in cases involving four other TT patents, one of them (U.S. Patent No. 7,904,374) a child of the '996 patent. *Trading Technologies International, Inc. v. IBG LLC*, 921 F.3d 1084 (Fed. Cir. 2019) (*IBG II*); *Trading Technologies International, Inc. v. IBG LLC*, 921 F.3d 1378 (Fed. Cir. 2019) (*IBG III*). We see no material distinction between those cases and this one.

We consider "the focus of the claimed advance over the prior art" at the first step of *Alice*. *IBG II*, 921 F.3d at 1092 (internal quotation marks omitted where quoting *Intellectual Ventures I LLC v. Capital One Financial Corp.*, 850 F.3d 1332, 1338 (Fed. Cir. 2017)). Here, the claims focus on the receipt and display of certain market information (bids and offers) in a manner that newly helps users see the information for use in making trades. But the combination of receipt and display of information, even of a particular

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type, and use of the information to engage in the fundamental economic practice of placing an order, are abstract ideas. *See id.* at 1092–93 (collecting cases).

Nothing in the claims, understood in light of the specification, calls for anything but preexisting computers and displays, programmed using techniques known to skilled artisans, to present the new arrangement of information. See, e.g., '132 patent, col. 4, line 61, through col. 5, line 3; '411 patent, col. 4, line 63, through col. 5, line 4; '996 patent, col. 4, lines 57–65. In that circumstance, a claim to "a purportedly new arrangement of generic information that assists traders in processing information more quickly" is a claim "directed to the abstract idea of graphing bids and offers to assist a trader to make an order." IBG II, 921 F.3d at 1093; see also id. at 1093-95. The focus is not on improving computers, as "mere automation of manual processes using generic computers" does not constitute such an improvement. IBG III, 921 F.3d at 1384 (internal quotation marks omitted where quoting Credit Acceptance Corp. v. Westlake Services, 859 F.3d 1044, 1055 (Fed. Cir. 2017)); id. at 1385 ("[A]rranging information along an axis does not improve the functioning of the computer, make it operate more efficiently, or solve any technological problem.").

TT also cannot succeed at the second step of *Alice*, requiring an inventive concept to avoid ineligibility of a claim held at the first step to be directed to an abstract idea. "The abstract idea itself cannot supply the inventive concept, no matter how groundbreaking the advance." *IBG II*, 921 F.3d at 1093 (internal quotation marks omitted where quoting *SAP America*, *Inc. v. InvestPic*, *LLC*, 898 F.3d 1161, 1171 (Fed. Cir. 2018)); *IBG III*, 921 F.3d at 1385 (same). We have held that "receiving market information is simply routine data gathering, and displaying information as indicators along a scaled price axis is well-understood, routine, conventional activity that does not add something significantly more to the abstract idea." *IBG II*,

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921 F.3d at 1093. Given the absence of an improvement in computer functionality, we conclude that the specific claim elements, "individually and as an ordered combination," *id.*, even if they make particular choices among abstract ideas involving information and ordering, do not add an inventive concept needed for eligibility.

We have presented the foregoing analysis with specific reference to the analysis set forth in the two cited IBG cases, applied to the similar claims at issue here. But that is only because the claims here are so similar to the claims in those cases. The principles that control here are amply supported by numerous other precedents, cited in or postdating those decisions, as well. See, e.g., Ultramercial, Inc. v. Hulu, LLC, 772 F.3d 709, 715 (Fed. Cir. 2014); OIP Technologies, Inc. v. Amazon.com, Inc., 788 F.3d 1359, 1362 (Fed. Cir. 2015); Electric Power Group, LLC v. Alstom S.A., 830 F.3d 1350, 1353 (Fed. Cir. 2016); Intellectual Ventures ILLC, 850 F.3d at 1338; Credit Acceptance Corp., 859 F.3d at 1055; Interval Licensing LLC v. AOL, Inc., 896 F.3d 1335, 1345 (Fed. Cir. 2018); SAP America, Inc., 898 F.3d at 1167; Data Engine Technologies LLC v. Google LLC, 906 F.3d 999, 1007–08 (Fed. Cir. 2018); Ericsson Inc. v. TCL Communication Technology Holdings Ltd., 955 F.3d 1317, 1327 (Fed. Cir. 2020); *IBM*, 50 F.4th at 1378.

 \mathbf{R}

TT argues that we should reject IBG's § 101 challenge to the asserted claims of the '411 and '996 patents because, as noted above, we rejected a § 101 challenge to claims of the '304 and '132 patents in our decision in CQG. But that decision is not precedential, and "[w]e are not bound by non-precedential decisions at all, much less ones to different patents, different specifications, or different claims." $IBG\ II$, 921 F.3d at 1095 (emphasis added). The lack of precedential force is reason enough to reject TT's reliance on CQG, and the difference in the claims reinforces that conclusion.

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The claims of the '304 and '132 patents at issue in CQG require a "static price axis," 675 F. App'x at 1003 (quoting '304 patent, col. 12, line 36, through col. 13, line 3), whereas the claims of the '411 and '996 patents at issue here are broader, allowing some automatic movement of the price axis (by construction, in the case of the '996 patent, Trading Technologies, 2019 WL 6609428, at *3). IBG has not appealed the § 101 ruling regarding the '304 and '132 patents, so we have no occasion here to question that the static price axis can be characterized as providing "a specific solution to [a] then-existing technological problem[]," Data Engine, 906 F.3d at 1007–08—in particular, to the problem described by TT, namely, that a trader might click a location on the screen in an attempt to execute a transaction at a particular price but the attempt might fail if the price axis moved automatically, see TT's Opening Brief at 7-8. Even if the static price axis provides a specific solution to an existing problem, however, it does not follow that the claims at issue here, which cover displays with automatic movement of the price axis, provide such a specific solution. And TT suggests no other problem for which the '411 and '996 patents claim a "specific" solution. Accordingly, we conclude that CQG does not support alteration of our direct application of the § 101 standards reflected in our precedential decisions to hold that the asserted claims of the '411 and '996 patents are invalid for claiming the above-identified abstract ideas concerning the display of market information to facilitate trading in commodities markets.

TT also argues that a conclusion of eligibility of the asserted claims of the '411 and '996 patents is compelled by our holding in *IBG I*. In that decision, however, we did not hold that any claims of the '411 and '996 patents were ineligible under § 101—an issue we did not reach—but, rather, that those patents did not qualify for CBM review. 757 F. App'x at 1007–08. We reject TT's argument based on *IBG I*.

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TT does not invoke claim preclusion or issue preclusion based on the *IBG I* decision. And the *IBG I* decision is not precedential, so that decision is not binding: "We are not bound by non-precedential decisions at all" *IBG II*, 921 F.3d at 1095. In addition, the only rationale given in the *IBG I* decision was that an earlier *eligibility* conclusion (as to the '132 and '304 patents in *CQG*) implied *nonqualification* for CBM review under the requirement that a patent, to qualify, must not be "for [a] technological invention[]," AIA § 18(d)(1). *See IBG I*, 757 F. App'x at 1007–08. That rationale did not apply to the '411 and '996 patents, for which no eligibility holding existed.

Moreover, what TT now urges is not what IBG I concluded for two patents—that eligibility implied nonqualification for CBM review—but the logical converse of that rationale (in generalized form), namely, that nonqualification for CBM review implies eligibility. That converse principle, however, is not found in *IBG I* or in any other authority cited by TT. And we see no good reason to adopt it. The "for technological inventions" language used in AIA § 18(d)(1) with respect to the expired CBM program served merely to curtail access to a special, temporary avenue for patentability review, not to loosen or otherwise alter the substantive standards governing the merits determination of patentability, including § 101 eligibility. That language has not defined what is sufficient for eligibility under the § 101 standards we have developed in an extensive body of case law applying the principles of *Alice* in a variety of settings. We therefore reject TT's argument that the '411 and '996 patents' failure to qualify for CBM review implies that their claims are eligible under § 101.

III

TT argues that the district court erred in excluding one basis for damages proposed by TT's damages expert, Ms. Lawton—specifically, that TT should recover "foreign damages" flowing from "[m]aking' the Accused Products in the

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United States." J.A. 87851. Exclusion of evidence under Federal Rule of Evidence 702 is generally reviewed under the standards prescribed by the pertinent regional circuit. *Power Integrations*, 711 F.3d at 1356. Seventh Circuit law, applicable here, provides for review for an abuse of discretion, which exists when the exclusion rests on a legal error, as determined de novo on appeal. *See Downing v. Abbott Laboratories*, 48 F.4th 793, 804 (7th Cir. 2022); *United States v. Dingwall*, 6 F.4th 744, 750 (7th Cir. 2021). Where an exclusion rests on an interpretation of patent law, we apply our own law and review the interpretation without deference. *BASF Plant Science*, *LP v. Commonwealth Scientific & Industrial Research Organisation*, 28 F.4th 1247, 1275 (Fed. Cir. 2022) (quoting *Sulzer Textil A.G. v. Picanol N.V.*, 358 F.3d 1356, 1363 (Fed. Cir. 2004)).

TT argues that the district court should have applied the extraterritoriality analysis articulated by the Supreme Court in *WesternGeco*, rather than more restrictive principles the district court drew from *Power Integrations*. The district court was reluctant to conclude, on its own, that *WesternGeco* displaces *Power Integrations* as the required framework of analysis for this case, involving 35 U.S.C. § 271(a) and a reasonable royalty. We now draw that conclusion, in agreement with TT. Nevertheless, we conclude that, even under the *WesternGeco* framework, the evidence offered by TT's expert was properly excluded.

Α

1

For a determination whether patent damages are properly awarded in a particular case based partly on conduct abroad, the decision in *WesternGeco* established a framework of analysis that necessarily supersedes the analysis set forth in our earlier decision *Power Integrations*. Not only is the structure of analysis different, but we also had relied on the *Power Integrations* analysis in our decision in the *WesternGeco* case on review in the Supreme

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Court, see WesternGeco L.L.C. v. ION Geophysical Corp., 791 F.3d 1340, 1350–51 (Fed. Cir. 2015), and the Supreme Court reversed our decision, noting the reliance on Power Integrations, 585 U.S. at 411–12. In these circumstances, we must follow the Supreme Court's analysis, which now governs in place of the analysis of Power Integrations. See Ideker Farms, Inc. v. United States, 71 F.4th 964, 988 n.11 (Fed. Cir. 2023); California Institute of Technology v. Broadcom Ltd., 25 F.4th 976, 991 (Fed. Cir. 2022); SIPCO, LLC v. Emerson Electric Co., 980 F.3d 865, 870 n.1 (Fed. Cir. 2020); Troy v. Samson Manufacturing Co., 758 F.3d 1322, 1326 (Fed. Cir. 2014); Doe v. United States, 372 F.3d 1347, 1354–57 (Fed. Cir. 2004).

We do not parse *Power Integrations* to identify which particular sentences are now superseded by *WesternGeco*. Nor do we have occasion to determine whether the *WesternGeco* analysis would ultimately have supported a recovery by Power Integrations of damages based on foreign conduct given the facts of its case. Here, and in future cases, analysis of the issue should simply proceed under the *WesternGeco* framework.⁴

⁴ After the Supreme Court decided WesternGeco, (which involved 35 U.S.C. § 271(f)(2)), the district court in the Power Integrations case (which involved 35 U.S.C. § 271(a)) concluded that WesternGeco "implicitly overruled" our 2013 Power Integrations decision. Power Integrations, Inc. v. Fairchild Semiconductor International, Inc., No. 04-1371-LPS, 2018 WL 4804685, at *1 (D. Del. Oct. 4, 2018) (Stark, J.). On that basis, the court, acting under Federal Rule of Civil Procedure 60(b)(6), granted Power Integrations relief from the earlier judgment and newly allowed it "to seek recovery of worldwide damages," and the court certified the ruling for interlocutory review by this court under 28 U.S.C. § 1292(b). Id. at *2. But the

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We proceed with a detailed description of the *Western-Geco* analysis, enabling us then to address the doctrinal issues flagged by TT and by the district court, before, in subsection III.B *infra*, applying the analysis to this case.

2

WesternGeco was the owner of several patents covering systems for surveying the ocean floor by use of sound-sending-and-receiving devices on long streamers towed by ships, where relevant claims required particular features for steering the streamers. See WesternGeco, 585 U.S. at 411; WesternGeco, 791 F.3d at 1343, vacated, 579 U.S. 915 (2016), reinstated in relevant part, 837 F.3d 1358 (Fed. Cir. 2016), reversed, 585 U.S. at 417. As relevant to the Supreme Court decision, a jury found the defendant ION Geophysical liable for infringement of the patent claims under 35 U.S.C. § 271(f)(2), where the infringement consisted of ION Geophysical's domestic manufacturing of components

appeal was dismissed before appellate review occurred, and the case settled, producing a dismissal in the district court, before a new trial occurred, No. 04-1371-LPS (D. Del. Oct. 25, 2019), ECF No. 995.

Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

³⁵ U.S.C. § 271(f)(2).

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of patent-claimed systems and its sending of the components abroad to companies that would use them in assembling the overall systems and then use the systems to compete with WesternGeco in selling surveying services (to oil companies looking for undersea oil). WesternGeco, 585 U.S. at 411. The jury awarded lost-profits damages to WesternGeco, under the patent statute's damages provision, 35 U.S.C. § 284,6 for the foreign survey-services sales WesternGeco lost to its survey-services competitors that had been supplied by ION Geophysical. *Id.* This court, relying on *Power Integrations*, held that award to be an impermissible extraterritorial application of § 284. WesternGeco, 791 F.3d at 1350-51.

The Supreme Court reversed, concluding that the lost-profits award for the § 271(f)(2) infringement was not impermissibly extraterritorial. 585 U.S. at 412–17. Specifically, the Court concluded that § 284 permits "the patent owner to recover for lost foreign profits," *id.* at 417, when such recovery is justified under § 284's directive to provide

⁶ Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.

When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed. Increased damages under this paragraph shall not apply to provisional rights under [35 U.S.C. § 154(d)].

The court may receive expert testimony as an aid to the determination of damages or of what royalty would be reasonable under the circumstances. 35 U.S.C. § 284.

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"complete compensation' for infringements," applied to the infringing (making-and-supplying) actions specified in § 271(f)(2), which the Court held to be domestic conduct. *Id.* at 408 (quoting *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 655 (1983)).

The Supreme Court reached that conclusion by applying to the relevant patent-law statutes its two-step framework for deciding when an application of a statute is impermissibly extraterritorial. Under that framework, which starts with a presumption that a statute lacks extraterritorial reach, a court ordinarily asks, first, "whether the presumption against extraterritoriality has been rebutted" (by clear enough congressional action) and, second (if the presumption has not been rebutted), "whether the case involves a domestic application of the statute" (rather than an extraterritorial application). Id. at 413 (internal quotation marks omitted where quoting RJR Nabisco, Inc. v. European Community, 579 U.S. 325, 337 (2016)). The Court decided that the case should be decided by skipping the first step and proceeding immediately to the second step. Id. In conducting the second-step inquiry—into whether the statutory application at issue is a "domestic application"—courts are to identify "the statute's focus," id. (internal quotation marks omitted where quoting RJR Nabisco, 579 U.S. at 337), where the statute's "focus is the object of its solicitude, which can include the conduct it seeks to regulate, as well as the parties and interests it seeks to protect or vindicate," id. at 414 (cleaned up, internal quotation marks omitted where quoting Morrison v. National Australia Bank Ltd., 561 U.S. 247, 267 (2010), and an earlier decision).

When initially describing the relevant statutory provisions, the Court started by quoting the cause-of-action provision, 35 U.S.C. § 281 ("A patentee shall have remedy by civil action for infringement of his patent."), before quoting provisions of § 271 on infringement and § 284 on damages. WesternGeco, 585 U.S. at 409–11; see also Dowling v.

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United States, 473 U.S. 207, 227 n.19 (1985) (referring to § 281 as providing a "cause of action"). But when determining the "statutory focus" for its extraterritoriality analysis, the Court "beg[a]n with § 284," the damages provision. Western Geco, 585 U.S. at 414. It reasoned that "[t]he portion of § 284 at issue" was the portion stating that "the court shall award the claimant damages adequate to compensate for the infringement," and it noted its precedents' explanations that § 284's "overriding purpose . . . is to afford patent owners complete compensation for infringements," id. (cleaned up, internal quotation marks omitted where quoting General Motors, 461 U.S. at 655), and that the § 284 "question . . . is how much . . . the Patent Holder suffered by the infringement," id. at 414–15 (cleaned up, internal quotation marks omitted where quoting Aro Manufacturing Co. v. Convertible Top Replacement Co., 377 U.S. 476, 507 (1964) ("Aro II," a common shorthand)). Based on the "the infringement" language of § 284 and its precedents, the Court concluded: "Accordingly, the infringement is plainly the focus of § 284." *Id.* at 415.

Having identified "the infringement" as the focus of § 284, the Court, to complete its determination whether "the conduct relevant to the statutory focus in this case is domestic," then discussed the statutory provision defining "the infringement" at issue in the case. Id. at 414. That provision was § 271(f)(2), which, the Court concluded, "focuses on domestic conduct." Id. at 415. The Court explained: "The conduct that § 271(f)(2) regulates—i.e., its focus—is the domestic act of 'supply[ing] in or from the United States." Id. (alteration in original) (quoting § 271(f)(2)); see also id. (concluding that § 271(f) "vindicates domestic interests" because it reaches domestically made components; and that the focus is on "the act of exporting components from the United States," which is "domestic infringement"). Therefore, the Court concluded, "the lostprofits damages that were awarded to WesternGeco were a domestic application of § 284." *Id.* at 415–16.

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The Court added several points in response to objections to its analysis. It indicated that infringement was not the same as injury and did not encompass all the conduct that contributed to producing the injury. In particular, the Court reasoned that the infringement remained domestic even though foreign conduct (e.g., ION Geophysical's customers' system assembly and sale of survey services) contributed to WesternGeco's loss of sales abroad; such "overseas events were merely incidental to the infringement"; and those events "do not have 'primacy' for purposes of the extraterritoriality analysis." *Id.* at 416 (quoting *Mor*rison, 561 U.S. at 267). The Court also indicated that damages are not the same as injury. Id. at 417 (stating that the dissent's "position wrongly conflates legal injury with the damages arising from that injury"). Relatedly, the Court explained that WesternGeco was critically different from RJR Nabisco, whose pertinent provision was a civilcause-of-action provision, 18 U.S.C. § 1964(c), that contained language expressly referring to injury, language that the Court in RJR Nabisco held to be limited to "a domestic injury." WesternGeco, 585 U.S. at 416 (quoting RJR Nabisco, 579 U.S. at 346)). Whereas RJR Nabisco involved "a substantive element of a cause of action," the Court in WesternGeco said, 35 U.S.C. § 284 is a "remedial damages provision," not a cause-of-action provision, let alone one with an express injury element. Id.⁷

⁷ Although the Court had earlier referred to the cause-of-action provision for the patent statute, 35 U.S.C. § 281, the Court in *WesternGeco* did not refer to § 281 in this *RJR Nabisco* discussion—perhaps reflecting the fact that there was no dispute that the cause of action was available to WesternGeco (which was awarded some damages not subject to challenge for extraterritoriality). The Court thus did not mention that § 281 itself contains no specific reference

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Importantly for the present case, it is clear that the Court in WesternGeco effectively recognized that a causation requirement is part of the § 284 standard, which authorizes an award "adequate to compensate for" the infringement. The Court quoted formulations inherently acknowledging a causation requirement that demands at least but-for causation. It quoted the Aro II description of § 284 as asking "how much . . . the Patent Holder . . . suffered by the infringement" and also the Aro II statement that the patentee is entitled to recover "the difference between [its] pecuniary condition after the infringement, and what [its] condition would have been if the infringement had not occurred." WesternGeco, 585 U.S. at 414–15, 417 (alterations in original) (emphasis added) (internal quotation marks omitted where quoting *Aro II*, 377 U.S. at 507). And it quoted the statement in General Motors that compensation for infringement is "adequate" when it places the patentee "in as good a position as he would have been in if the patent had not been infringed." Id. at 417 (quoting 461) U.S. at 655); see also General Motors, 461 U.S. at 654–55 (describing § 284 as providing for "full compensation for 'any damages' he suffered as a result of the infringement" (emphasis added) (internal quotation marks omitted where quoting legislative history)). Finally, the Court in Western-Geco concluded by calling out the unaddressed issue of the scope of the causation requirement: "In reaching this holding, we do not address the extent to which other doctrines, such as proximate cause, could limit or preclude damages in particular cases." 585 U.S. at 417 n.3.

to injury, making it unlike 18 U.S.C. § 1964(c). The United States pointed out this difference in distinguishing *RJR Nabisco* in its amicus brief in *WesternGeco*. Brief for the United States as Amicus Curiae Supporting Petitioner, at

29–30, WesternGeco, 585 U.S. 407, 2018 WL 1168813.

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The first doctrinal issue before us is whether the *West-ernGeco* framework applies when the direct infringement in question (either itself or as a component of indirect infringement) is one of the acts at issue here accused of infringing under § 271(a). We readily conclude that it does.

Nothing about the WesternGeco analysis of § 284, the damages provision, or about § 281, the cause-of-action provision, is altered when "the infringement" at issue is infringement under § 271(a) rather than § 271(f). Under WesternGeco we must examine the particular acts alleged to constitute infringement under particular statutory provisions to determine if the allegations focus on domestic conduct. Section 271(a) provides that "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent." 35 U.S.C. § 271(a) (emphases added). At least the making, using, offering to sell, and selling provisions are expressly limited to domestic acts.8

⁸ The remaining act, importing into the United States, might also be properly characterized as a domestic act. *Cf. Carnegie Mellon University v. Marvell Technology Group, Ltd.*, 807 F.3d 1283, 1308 (Fed. Cir. 2015) (Regarding "import[ing] into the United States for use in the United States," the court stated: "Section 271(a) makes clear that Congress meant to reach such 'import[ation]' and 'use[]' as domestic conduct."). In any event, Congress clearly authorized coverage of importing as an infringing act, so if importing is characterized as extraterritorial, the statute provides a "clear indication of an extraterritorial application," thus rebutting the presumption against extraterritoriality at

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If the exporting covered by § 271(f)(2) is a domestic act for purposes of the extraterritoriality analysis, as *Western-Geco* held, so too are the § 271(a)-covered acts at issue in this case. The *Western-Geco* extraterritoriality framework for damages under § 284 therefore applies to the infringement under § 271(a) here.

4

We also conclude that the *WesternGeco* framework applies to a reasonable-royalty award, not just a lost-profits award, under § 284, though its application must reflect the established differences in standards for the two types of awards.

Although the damages at issue in WesternGeco were lost-profits damages, 585 U.S. at 411, 417, the Court's statutory analysis did not distinguish the forms of damages. In discussing § 284, the Court described it as providing "a general damages remedy," and its essential point about § 284 was that damages were for "the infringement." Id. at 414– 15. In describing the basic principle governing damages under § 284, the Court relied on two precedents that involved reasonable royalties. *Id.* (relying on *General Motors* and Aro II). The Supreme Court in Aro II construed the language of § 284 as treating the reasonable royalty authorized by the provision as a form of damages rather than as a substitute for damages, 377 U.S. at 504–08, notwithstanding the difference in conceptual foundation of lost profits and a reasonable royalty (at least when not measured by an established royalty); and we have consistently followed that treatment, see, e.g., Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1544–45 (Fed. Cir. 1995) (en banc); Laser Dynamics, Inc. v. Quanta Computer, Inc., 694 F.3d 51, 66 (Fed. Cir. 2012); Pavo Solutions LLC v. Kingston Technology Co., 35 F.4th 1367, 1379 (Fed. Cir. 2022); VLSI

the first step of the two-step analysis. WesternGeco, 585 U.S. at 413 (internal quotation marks omitted).

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Technology LLC v. Intel Corp., 87 F.4th 1332, 1345 (Fed. Cir. 2023). We hold, therefore, that the Court's framework in WesternGeco, and its conclusions about what is a domestic rather than extraterritorial application of § 284, must apply to a reasonable-royalty case.

That conclusion hardly means that the analysis of a reasonable-royalty case may ignore the well-recognized differences between lost-profits and reasonable-royalty damages, conceptually and in the formulations governing their availability and calculation. An award of lost profits generally depends on showing the existence and magnitude of profits lost to the patentee on sales the patentee did not make, or made at lower prices, as a result, under proper causation standards, of the infringement. See, e.g., Mentor Graphics Corp. v. EVE-USA, Inc., 851 F.3d 1275, 1283–90 (Fed. Cir. 2017); Ericsson, Inc. v. Harris Corp., 352 F.3d 1369, 1376–79 (Fed. Cir. 2003); Rite-Hite, 56 F.3d at 1544– 49; see also Dowagiac Manufacturing Co. v. Minnesota Moline Plow Co., 235 U.S. 641, 648 (1915). "The reasonable royalty theory of damages, however, seeks to compensate the patentee not for lost sales caused by the infringement, but for its lost opportunity to obtain a reasonable royalty that the infringer would have been willing to pay if it had been barred from infringing." AstraZeneca AB v. Apotex Corp., 782 F.3d 1324, 1334 (Fed. Cir. 2015). "As the exclusive right conferred by the patent was property, and the infringement was a tortious taking of a part of that property, the normal measures of damages was the value of what was taken," and it is "permissible to show the value by proving what would have been a reasonable royalty, considering the nature of the invention, its utility and advantages, and the extent of the use involved." Dowagiac, 235 U.S. at 648.

This case involves a reasonable royalty, and repeatedly articulated standards frame how the particular issue presented here is properly formulated. "There is no dispute here about the propriety of using the common hypothetical-

negotiation approach to calculating a reasonable royalty, under which the finder of fact 'attempts to ascertain the royalty upon which the parties would have agreed had they successfully negotiated an agreement just before infringement began." Asetek Danmark A/S v. CMI USA Inc., 852 F.3d 1352, 1362 (Fed. Cir. 2017) (quoting *Lucent Technolo*gies, Inc. v. Gateway, Inc., 580 F.3d 1301, 1324 (Fed. Cir. 2009)); see Jury Instructions at 51–56, Trading Technologies International, Inc. v. IBG LLC, No. 10 C 715 (N.D. Ill. Sept. 2, 2021), ECF No. 2130. Many authorities address issues concerning the hypothetical negotiation, which, operating under certain assumptions, at its core is a process for identifying the incremental value of the claimed technology over noninfringing alternatives and determining how that gain would be shared. See, e.g., VLSI, 87 F.4th at 1345–46; Asetek Danmark, 852 F.3d at 1362–63; Carnegie Mellon, 807 F.3d at 1304–05; AstraZeneca, 782 F.3d at 1334-44; Aqua Shield v. Inter Pool Cover Team, 774 F.3d 766, 770 (Fed. Cir. 2014); Lucent, 580 F.3d at 1324–25.

The foundational principle is that "the royalty due for patent infringement should be the value of what was taken—the value of the use of the patented technology." AstraZeneca, 782 F.3d at 1344 (emphasis added) (internal quotation marks omitted); see VLSI, 87 F.4th at 1345; Aqua Shield, 774 F.3d at 770. One aspect of that principle is that "[t]he royalty base for reasonable royalty damages cannot include activities that do not constitute patent infringement, as patent damages are limited to those 'adequate to compensate for the infringement." AstraZeneca, 782 F.3d at 1343 (quoting 35 U.S.C. § 284). For example, a patentee "may of course obtain damages only for acts of infringement after the issuance of the . . . patent." Hoover Group, Inc. v. Custom Metalcraft, Inc., 66 F.3d 299, 304 (Fed. Cir. 1995) (quoted with approval in AstraZeneca, 782 F.3d at 1343). Relatedly, the bottom-line royalty "must be 'apportion[ed] to [the value of the patented technology]—by separating out and excluding other value in economic products

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or practices." *VLSI*, 87 F.4th at 1345 (citing numerous cases). In other words, the incremental value to be allocated, in the hypothetical negotiation, is the value of the *claimed* technology (not, *e.g.*, of unclaimed product improvements) over that of noninfringing alternatives.

Those principles point to a minimum requirement for a patentee seeking reasonable-royalty damages based on foreign conduct that is not independently infringing. Under the foregoing principles, the hypothetical negotiation must turn on the amount the hypothetical infringer would agree to pay to be permitted to engage in the domestic acts constituting "the infringement." 35 U.S.C. § 284. If the patentee seeks to increase that amount by pointing to foreign conduct that is not itself infringing, the patentee must, at the least, show why that foreign conduct increases the value of the domestic infringement itself—because, e.g., the domestic infringement enables and is needed to enable otherwise-unavailable profits from conduct abroad—while respecting the apportionment limit that excludes values beyond that of practicing the patent. This kind of causal connection, framed in terms of the agreement-to-pay aspect of a hypothetical negotiation, is a necessary beginning—we need not here say it is sufficient—for a foreign-conduct analysis in a reasonable-royalty case. Cf. Carnegie Mellon, 807 F.3d at 1307 (noting that defendant's sales abroad were "strongly enough tied to its domestic infringement as a causation matter to have been part of the hypotheticalnegotiation agreement," before moving on to apply extraterritoriality standards based on *Power Integrations*, now superseded by WesternGeco).

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Finally, and relatedly, because *WesternGeco* establishes a new framework, of which causation is a necessary part, a few observations on causation are warranted based on the Supreme Court's note that it was not ruling on "the extent to which other doctrines, such as proximate cause,

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could limit or preclude damages in particular cases." 585 U.S. at 417 n.3.

We have recognized that "proximate" causation is required and that proximate causation requires but-for causation plus more, including the absence of remoteness. *Rite-Hite*, 56 F.3d at 1546 ("the 'test' for compensability . . . under § 284 is not solely a 'but for' test"; additional limits, including limits on remoteness, apply, labeled "proximate cause"). We have said, too, in the lost-profits setting, that "reasonable, objective foreseeability" is "generally" sufficient for proximate causation, while indicating that a different conclusion might be justified if there is "a persuasive reason to the contrary." *Id*.

The Supreme Court, for its part, has noted that proximate causation is more than but-for causation, see, e.g., Anza v. Ideal Steel Supply Corp., 547 U.S. 451, 456–57 (2006), containing a directness requirement, id. at 457–58, and described the proximate-cause requirement as the "traditional requirement," Bank of America Corp. v. City of *Miami*, 581 U.S. 189, 201 (2017). More specifically, the Court has explained that "[i]t is a well established principle of [the common] law that in all cases of loss, we are to attribute it to the proximate cause, and not to any remote cause" and that the Court "assume[s] Congress is familiar with the common-law rule and does not mean to displace it sub silentio." Id. (internal quotation marks omitted where quoting Lexmark International, Inc. v. Static Control Components, Inc., 572 U.S. 118, 132 (2014)). And, based on that logic, the Court held the proximate-cause requirement applicable to a statutory claim that was "akin to a tort action," id. (internal quotation marks omitted)—a characterization that fits patent infringement, described by the Court as "a

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tortious taking," Dowagiac, 235 U.S. at 648.9 At the same time, the Supreme Court explained that, for some statutes, "foreseeability alone is not sufficient to establish proximate cause," Bank of America, 581 U.S. at 201, and that the "[p]roximate-cause analysis is controlled by the nature of the statutory cause of action," id. (internal quotation marks omitted where quoting *Lexmark*, 572 U.S. at 133). In finding foreseeability insufficient under the statute at issue in Bank of America, the Court considered the consequences of the contrary view in the context of that statute. Id. at 202–03.

The foregoing authorities raise questions about the proper approach to determining, based on "other doctrines, such as proximate cause," WesternGeco, 585 U.S. at 417 n.3, when foreign conduct can properly play a role in calculating patent damages. One such question is whether the "reasonable, objective foreseeability" presumptive standard for lost profits, *Rite-Hite*, 56 F.3d at 1546, is applicable where the damages are for a (non-established) reasonable royalty, whose conceptual foundation is notably different from that of lost profits. Another question concerns the long-recognized general avoidance of extraterritorial reach that is an aspect of the statutory context. *Microsoft Corp.* v. AT & T Corp., 550 U.S. 437, 455–56 (2007); Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518, 531 (1972); Carnegie Mellon, 807 F.3d at 1306; Power Integrations, 711 F.3d at 1371. What, if any, room is there to take that

⁹ See also Carbice Corp. of America v. American Patents Development Corp., 283 U.S. 27, 33 (1931); Belknap v. Schild, 161 U.S. 10, 17 (1896); Schillinger v. United States,

155 U.S. 163, 169 (1894); Wordtech Systems, Inc. v. Integrated Network Solutions, Inc., 609 F.3d 1308, 1313 (Fed. Cir. 2010); Mars, Inc. v. Coin Acceptors, Inc., 527 F.3d 1359,

1365 (Fed. Cir. 2008); cf. Mentor Graphics, 851 F.3d at 1284

(analogizing to tort law).

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consideration into account in applying the proximate-cause requirement, itself not addressed in *WesternGeco*, without contradicting the Supreme Court's ruling in *WesternGeco*? We need not and do not here suggest answers to, or further explore, those or other questions.

В

The requirement of the foregoing framework that is dispositive here is that "the infringement"—the focus of § 284, as the Court in *WesternGeco* repeatedly stressed—have the needed causal relationship to the foreign conduct for which recovery is sought. Ms. Lawton's "Making the Accused Product with Foreign Damages" basis for claimed damages did not meet this fundamental requirement—at least because Ms. Lawton did not focus on "the infringement." That failure called for its exclusion.

1

Infringement under § 271(a) is one of the specified acts involving the "patented invention"—making, using, offering to sell, selling, or importing it. 35 U.S.C. § 271(a). "[T]he claims measure the invention," Continental Paper Bag Co. v. Eastern Paper Bag Co., 210 U.S. 405, 419 (1908); "[e]ach element contained in a patent claim is deemed material to defining the scope of the patent invention, ... and a patentee's rights extend only to the claimed combination of elements, and no further," Limelight Networks, Inc. v. Akamai Technologies, Inc., 572 U.S. 915, 921 (2014) (internal quotation marks omitted where quoting Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co., 520 U.S. 17, 29 (1997)); and "infringement must be decided with respect to each asserted claim as a separate entity," W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1559 (Fed. Cir. 1983). See also, e.g., Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc., 574 U.S. 318, 321, 332 (2015); Altoona Publix Theatres v. American Tri-Ergon Corp., 294 U.S. 477, 487 (1935); Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc); Pall Corp. v. Micron Separations, Inc.,

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66 F.3d 1211, 1220 (Fed. Cir. 1995); *In re Vogel*, 422 F.2d 438, 441 (CCPA 1970).

Here, there are two groups of claims at issue: claims to a method; and claims to a computer readable medium (CRM) containing computer code. Infringement therefore is limited to making, using, offering to sell, selling, or importing a method or a CRM. Ms. Lawton's at-issue proposal, however, does not focus on one of those acts.

In that proposal, the asserted infringement is "Making the Accused Product." This language cannot reasonably be read to refer to the method claims. TT has not argued that it refers to making the claimed methods. And any such reading of the language would have to overcome at least two related obstacles: There is no established recognition in patent law of direct infringement by "making" a "method"; and, indeed, we have indicated that direct infringement is limited to using the method, stating that "[a] method claim is *directly* infringed only by one practicing the patented method," Joy Technologies, Inc. v. Flakt, Inc., 6 F.3d 770, 775 (Fed. Cir. 1993). See NTP, Inc. v. Research in Motion, Ltd., 418 F.3d 1282, 1319–21 (Fed. Cir. 2005) (explaining similar recognition in congressional reports associated with the Process Patent Amendments Act of 1988, Pub. L. No. 100-418, Title IX, § 9003, 102 Stat. 1563-67; ultimately reserving novel issue whether methods can be sold or offered for sale); Timothy R. Holbrook, Method Patent Exceptionalism, 102 Iowa L. Rev. 1001, 1014 (2017) ("Generally, process patents are infringed only when the steps of the process are performed.").

For Ms. Lawton's proposal to suffice even to begin a showing of causation based on domestic "infringement," therefore, it would have to refer to the CRM claims. But Ms. Lawton in proposing the theory, and TT in explaining it, have pointedly not focused on making an individual memory-device unit, whether freestanding (like a memory stick) or a part of a larger physical unit (like a hard drive

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in a personal computer or server). They have referred, instead, to the TWS BookTrader software itself-"the instructions themselves detached from any medium" (rather than a "tangible 'copy"), "software in the abstract," software "[a]bstracted from a usable copy." Microsoft, 550 U.S. at 447–448, 449 n.10, 451, 451 n.12. Ms. Lawton stated, using the singular when discussing what was "made," that "BookTrader is the Accused Product and is included in every version and every download of TWS and WebTrader," J.A. 87793, and it was "designed and made" and "developed" and "upgrade[d]" in the United States before being "provided . . . to customers around the world," J.A. 87851-53. TT, explaining Ms. Lawton's proposal in the district court, focused on domestic designing and programming of TWS BookTrader. J.A. 88411–12; see also Oral Arg. at 14:07-14:20 (same).

The Supreme Court has recognized the important distinction between software and a particular copy of it on a CRM, as just noted. See Microsoft, 550 U.S. at 447–448, 449 n.10, 451, 451 n.12. Even if the BookTrader software as such could be claimed (without violating statutory requirements such as 35 U.S.C. § 101)—which we need not decide—the software itself is not claimed in the '304 and '132 patent claims at issue. Thus, Ms. Lawton's proposal is legally insufficient, even under the WesternGeco framework, for the simple reason that, though it claims a "making," it does not start from an act of "infringement"—making a claimed CRM (or method)—in asserting the required causal connection to the foreign conduct for which the proposal seeks royalty damages. We will not rewrite Ms. Lawton's proposal to say something it does not.

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That deficiency suffices for affirmance of the evidenceexclusion ruling, but it is worth noting at least one other seeming deficiency in Ms. Lawton's proposal, which reinforces our unwillingness to rewrite Ms. Lawton's proposal.

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Although they expressly invoked *WesternGeco*, Ms. Lawton and TT presented no focused, coherent explanation of the required causal connection to domestic infringement, even putting aside the mismatch between the proposal and the claims.

Notable in this respect is a fact about timing. We may assume (without deciding) that IBG had to make early CRMs domestically (or practice the claimed method) as part of its process of developing its software and that the value of such development work to IBG might reflect prospective foreign-earned revenue for the resulting product. Cf. Carnegie Mellon, 807 F.3d at 1294, 1297, 1307 (referring to payment for domestic infringement that is part of development work that, when completed, would produce large foreign revenues). In this case, however, according to TT and Ms. Lawton, IBG's development of its BookTrader product meeting all claim limitations occurred before TT's patents issued: TT accused IBG of marketing its Book-Trader product before July 20, 2004, which caused infringement to begin precisely when the '304 patent issued. On that premise, IBG's making of CRMs in the initial creation of a BookTrader product meeting all claim limitations was not infringing under § 271(a), and IBG therefore did not need to pay TT anything for that work, which could not properly be included in the calculation in the hypothetical negotiation held "just before" July 20, 2004. See Asetek Danmark, 852 F.3d at 1362; Lucent, 580 F.3d at 1324.

Later domestic making of BookTrader-containing CRMs (or practicing of the claimed methods) could be infringing, of course, and properly be subject to a royalty. But TT was permitted to introduce evidence that some foreign users of BookTrader obtained their copies from domestic acts of making a copy or selling. *FRE 702 Opinion*, 2021 WL 5038754, at *2. The only disallowed proposal therefore had to involve making of copies abroad for foreign users (and foreign sales).

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On TT's and Ms. Lawton's premise that pre-July 20, 2004 versions of TWS BookTrader met the limitations of the '304 and '132 patents' claims, TT has not offered a concrete, coherent account of why, in the hypothetical negotiation, the royalty for new domestic acts of making claimed CRMs (or practicing claimed methods), starting July 20, 2004, would have properly been increased to reflect the prospective making and sale of CRMs abroad for use abroad. On the noted premise, IBG, even before the patents issued, already had CRMs containing TWS BookTrader that met the patents' limitations. "[N]either export from the United States nor use in a foreign country of a product covered by a United States patent constitutes infringement." Johns Hopkins University v. CellPro, Inc., 152 F.3d 1342, 1366 (Fed. Cir. 1998). And TT has not argued that the making of CRMs abroad would be infringing, even if the software installed abroad came from the United States, either under § 271(a), see Centillion Data Systems, LLC v. Qwest Communications International, Inc., 631 F.3d 1279, 1288 (Fed. Cir. 2011); Deepsouth, 406 U.S. at 527, or under § 271(f), see Microsoft, 550 U.S. at 449–50 (software itself is not a "component" under $\S 271(f)$). 10

IBG might of course infringe by domestically making new CRMs containing upgraded versions of TWS Book-Trader. But TT has not shown how value added by the upgrades would be properly added to the royalty in light of the apportionment requirement to avoid charging for value not attributable to the claimed invention. In particular, TT has not explained how such upgrade value would be

¹⁰ Congress responded to *Deepsouth* in 1984, but it did not change § 271(a) or, therefore, redefine when "making" occurs under that provision. Rather, Congress added a new subsection (f) defining new infringing acts. *See Microsoft*, 550 U.S. at 442–45; *see also Life Technologies Corp. v. Promega Corp.*, 580 U.S. 140, 151–52 (2017).

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anything but the value of features beyond what is required by the patent claims, on TT's and Ms. Lawton's premise about pre-July 20, 2004 versions of TWS Book Trader coming within the claims.

There is, in short, an apparent deficiency over and above the fundamental infringement-identifying one previously discussed. We need not, however, definitively draw a conclusion about the presence of this additional deficiency. The fundamental deficiency discussed above suffices for affirmance of the district court's Rule 702 exclusion ruling.

IV

In its final challenge in this appeal, TT asserts that the district court "abused its discretion" when it denied TT's motion for a new damages trial and new discovery on damages, a motion in which TT asserted that IBG committed fraud regarding its own calculation of damages. Opening Br. at 52. As the district court noted in denying the motion, the substance of TT's request is materially the same whether it is considered under Rule 59 or under Rule 60(b)(3), Post-Trial Opinion, 586 F. Supp. 3d at 833–34, and TT has not distinguished the two Rules in its arguments on appeal, TT's Opening Br. at 52-67. TT itself endorses an "abuse of discretion" standard for our review of the district court's denial, id. at 33, 52, reflecting the Seventh Circuit's precedents. See Abellan v. Lavelo Property Management, LLC, 948 F.3d 820, 830 (7th Cir. 1994) (Rule 59); Philos Technologies, Inc. v. Philos & D. Inc., 802 F.3d 905, 917 (7th Cir. 2015) (Rule 60(b)(3)); see also Cap Export, LLC v. Zinus, Inc., 996 F.3d 1332, 1338 (Fed. Cir. 2021) (following regional-circuit law). The Seventh Circuit has stated that relief under 60(b)(3) is "an extraordinary remedy and is granted only in exceptional circumstances." Wickens v. Shell Oil Co., 620 F.3d 747, 759 (7th Cir. 2010) (quoting Dickerson v. Board of Education, 32 F.3d 1114, 1116 (7th Cir. 1994)).

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TT's argument on appeal reduces to the assertion that IBG, whose damages calculation was based on counting particular accused trades made by users of IBG's Trader Workstation Platform (TWS), failed to give TT enough information about how IBG was counting the trades—more particularly, what role the BookTrader feature of TWS had to play in a trade (e.g., as originator or as submitter) for the trade to be counted. See TT's Opening Br. at 59–60. We see no clear error, based on the record, in the district court's careful evaluation of the evidence available to TT through discovery and its determination that IBG did disclose the key information that TT alleged was withheld, including the list of various TWS tools (features). Post-Trial Opinion, 586 F. Supp. 3d at 835–36.11 On the basis of its supported findings, the court could properly conclude, as it did, that TT had ample reason and opportunity before trial to uncover the now-asserted problems with IBG's evidence that TT says it uncovered only through its post-trial investigation. *Id.* at 837–38.

It is institutionally important that parties generally be held to the duty to conduct needed investigations of facts before trial. *See*, *e.g.*, *Rutledge v. United States*, 230 F.3d 1041, 1052 (7th Cir. 2000) (stating that "Rule 60(b) motions cannot be used to present evidence that with due diligence could have been introduced before judgment"). We see no abuse of discretion in the district court's denial of TT's post-trial motion.

V

We have considered TT's other arguments, and we find them unpersuasive. For the foregoing reasons, we affirm

Nor do we see clear error in the district court's rejection of TT's assertion that IBG sponsored false testimony, *id.* at 837, a ruling to which TT presents no meaningful challenge on appeal.

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the district court's judgment, including its grant of summary judgment of ineligibility of the asserted claims of the '411 and '996 patents, exclusion of Ms. Lawton's testimony on the "domestic making with foreign damages" theory, and denial of TT's motion for a new trial.

The parties shall bear their own costs.

AFFIRMED

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