

In the
United States Court of Appeals
For the Seventh Circuit

No. 17-1873

ABS GLOBAL, INC.,

Plaintiff/Counterclaim Defendant-Appellant,

and

GENUS PLC,

Counterclaim Defendant-Appellant,

v.

INGURAN, LLC, *doing business as* SEXING TECHNOLOGIES,

Defendant/Counterclaim Plaintiff-Appellee,

and

XY, LLC,

Intervening Defendant/Counterclaim Plaintiff-Appellee.

Appeal from the United States District Court for the
Western District of Wisconsin.

No. 14-CV-503 — **William M. Conley**, *Judge.*

ARGUED FEBRUARY 20, 2018 — DECIDED JANUARY 29, 2019

Before WOOD, *Chief Judge*, and EASTERBROOK and BARRETT, *Circuit Judges*.

WOOD, *Chief Judge*. This case is about the birds and the bees—in particular, about human efforts to control the reproductive outcomes otherwise determined by Mother Nature. Our specific interest is the cattle industry. People have been raising cattle since the early Neolithic Age, some 10,000 years ago, when members of the *Bovidae* family were first domesticated. See Mario Melletti, *Cattle Domestication: from Aurochs to Cow*, CAMBRIDGE UNIVERSITY PRESS: FIFTEENEIGHTYFOUR (Feb. 18, 2018), <http://www.cambridgeblog.org/2016/02/cattle-domestication-from-aurochs-to-cow/>. Not surprisingly, production techniques have evolved over the millennia. The innovation at the heart of the present controversy is the development of sperm-sorting technology. This process enables cattle breeders to determine the sex of calves by separating a sample of bull semen into X-chromosome bearing and Y-chromosome bearing sperm cells. The resulting product—“sexed semen”—is then used to inseminate cows artificially. With this technology, dairy farmers can be sure they will breed only milk-producing cows.

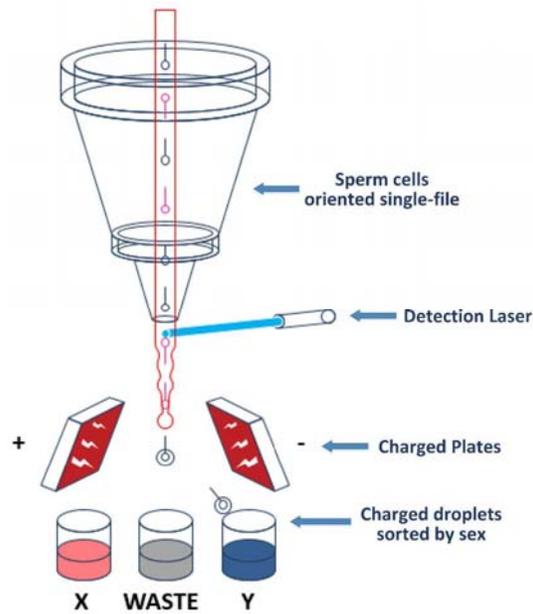
Until recently, Inguran, LLC, which does business as Sexing Technologies (“Sexing Tech”), held a monopoly on the market for sexed cattle semen in the United States. ABS Global, Inc., which runs a large bull-stud operation, hoped to change that. Believing that its efforts had been thwarted in ways that violated the antitrust laws, ABS sued Sexing Tech in the Western District of Wisconsin in 2014. It alleged, among other things, that Sexing Tech had unlawfully monopolized the domestic sexed-semen market in violation of section 2 of

the Sherman Act by using its market power to impose coercive contract terms. ABS sought a declaratory judgment proclaiming those contracts invalid, hoping to clear the way for its own entry into that market. Sexing Tech, along with its subsidiary, XY, LLC, (we use “Sexing Tech” to describe them collectively unless the distinction matters) counterclaimed that ABS infringed its patents and breached the contract between them by misappropriating trade secrets in developing ABS’s competing technology. Both sides also added state-law theories to the mix.

In the end, only three claims went to trial: ABS’s antitrust claim and Sexing Tech’s patent infringement and breach of contract counterclaims. After a nearly two-week trial, the jury returned a mixed—and somewhat puzzling—verdict, which the court ratified in post-trial rulings. We conclude, as did the district court, that ABS violated a confidentiality agreement it had with Sexing Tech, and that Sexing Tech’s patent was not invalid on obviousness grounds. The jury’s assessments of two of the three patent claims still at issue, however, cannot be reconciled under the rules governing dependent claims and enablement, and so a new trial is necessary on them.

I. The ‘987 Patent

The basic processes at issue in this case are not hard to describe. They rely on cell sorters, which are devices that sort cells to select either for a desired characteristic or to weed out an undesirable characteristic. These sorters date back to the mid-1960s, but it was not until the early 1990s that the first person developed a device designed to sort sperm cells. Lawrence Johnson, then a scientist with the U.S. Department of Agriculture, was the inventor. His technique is best explained with the help of a diagram:



This technique is a variation on a standard cell sorting technique called flow cytometric sorting. Johnson's process begins with a sample of stained sperm cells suspended in liquid. The stain allows the sorter to distinguish X-bearing cells from Y-bearing cells based on differences in their DNA content. The stained fluid is forced through a stream, spacing out the cells and orienting them single-file. Next, a laser identifies each cell as bearing either an X or Y chromosome. By this time, each sperm cell is contained in an individual droplet, and a different charge is applied to each droplet depending on whether it contains an X- or Y-bearing sperm cell. The individually charged cells are then passed through charged plates, which redirect the cells into three batches: X-bearing cells, Y-bearing cells, and waste. Because the cells are sorted while they are suspended in individual water droplets, this device is called a "droplet sorter." Johnson first patented this

technology in 1992 and wrote an article discussing improvements to the technique in 1999.

Sexing Tech holds a patent—U.S. Patent Number 8,206,987 (“the ‘987 patent”)—over an alternative technique, developed by Gary Durack, for sorting sperm cells. The Durack patent issued in 2012, with an effective filing date relating back to a provisional application filed on March 28, 2003. Although the full text of the patent runs nearly 250 pages, the critical part for our purposes is the final section, where the claims covered by the patent are set out. Three of those claims are at issue in this case: Claims 1, 2, and 7. Claim 1 is an independent claim, meaning (as we explain more fully below) that it stands on its own, while Claims 2 and 7 are dependent claims. Each of the dependent claims begins by specifying “a method of sorting a mixture of stained sperm cells according to claim 1.” Each dependent claim then goes on to specify a limitation on the subject matter covered by Claim 1, as required by 35 U.S.C. § 112(d). We set forth the full text of the disputed claims in the Appendix to this opinion.

The invention described in Claim 1 follows the same basic structure as the Johnson invention, but it substitutes a different method for sorting the cells at the final step. The Johnson method uses magnets to redirect droplets depending on the cell they contain, while the ‘987 patent describes a photo-damage sorting method. Photo-damage sorting is straightforward: a “kill laser” destroys undesired cells identified by the detection laser, leaving only the desired cells alive. The end product of the two methods is thus different: the Johnson patent yields three separate outputs (characteristic A, characteristic B, and waste); the Durack patent (illustrated below) produces only one output, which is

composed of living cells with the desired characteristic (A or B) and dead waste cells. Under ideal conditions, photo-damage sorters work faster than droplet sorters because their speed is not limited by the size of droplets.

Dependent Claims 2 and 7 impose additional limitations on Claim 1 of the '987 patent. Claim 7 specifies that in the final step of Claim 1, "Characteristic A" must be "a live X-chromosome bearing sperm cell" and "Characteristic B" must be "something other than a live X-chromosome bearing sperm cell." This means that a photo-damage sorter that sorts sperm cells for a characteristic other than sex (perhaps a set of genes on a different chromosome) would infringe Claim 1 of the patent, but not Claim 7. It also means that every violation of Claim 7 would *necessarily* violate the broader Claim 1.

Claim 2 restricts Claim 1 in a different way. Claim 2 covers a process "wherein the step of selecting stained sperm cells in the flow path to photo-damage further comprises the step of photo-damaging sperm cells based upon a sort strategy." Thus, the only difference between Claim 1 and Claim 2 is whether the "selection" of stained sperm cells that occurs at the selection point (step (e) of Claim 1), is based solely on their classification as having characteristic A or B (Claim 1) or based both on their classification as A or B and a sort strategy (Claim 2) that would further narrow the results obtained. A photo-damage sorter that sorts sperm without an additional sort strategy would infringe Claim 1 of the patent, but not Claim 2, while all sorters that followed all of the Claim 1 steps and then implemented a sort strategy would violate both Claim 2 and Claim 1.

Although Sexing Tech holds a patent for photo-damage sorting of sperm cells, it had not commercialized the technology before this suit began—its commercial sorters all used the droplet sorting technique pioneered by Johnson. ABS says that it created its own commercially usable photo-damage sorter but found itself blocked by Sexing Tech’s patents, bringing us to the present litigation.

II. The Issues on Appeal

As we noted earlier, the jury reached a mixed verdict. It found that Sexing Tech had violated section 2 of the Sherman Act, but that ABS suffered no antitrust injury from that violation and thus was entitled only to injunctive relief. On the other hand, the jury found ABS liable for infringing the ‘987 patent and a second patent held by Sexing Tech,¹ and it concluded that ABS had breached its confidentiality contract with Sexing Tech. It accordingly awarded damages to Sexing Tech on those claims. With respect to the ‘987 patent, ABS argued only invalidity; it did not contest infringement. The jury found that independent Claim 1 and dependent Claim 7 of the ‘987 patent were valid, but that dependent Claim 2 was invalid. After trial, both parties moved for judgment as a matter of law, and ABS also moved for a new trial and for a permanent injunction. The district court granted those motions in part and denied them in part, and it entered a permanent injunction barring Sexing Tech from enforcing certain contractual provisions as a remedy for its antitrust violation. ABS appealed. (Sexing Tech initially filed a cross-appeal, which it later voluntarily dismissed.)

¹ The other patent at issue in the district court, U.S. Patent No. 8,198,092, plays no part in this appeal, and so we disregard it.

Three issues are now before us: two relate to patent law and one to contract interpretation. First, ABS argues that all three claims in the '987 patent are invalid on the ground of obviousness. See 35 U.S.C. § 103. Second, ABS contends that the jury's decisions to uphold independent Claim 1 and dependent Claim 7, but to find dependent Claim 2 invalid, are irreconcilably inconsistent under the rules for enablement and thus a new trial is necessary. Finally, ABS asserts that the district court erred by finding a breach of the confidentiality agreement. It admits that it hired a former employee of Sexing Tech's subsidiary XY, and that this employee brought purloined trade secrets with her to ABS. Indeed, ABS stipulated to trade-secret liability for this wrongdoing, but Sexing Tech wanted and got more: the court held that ABS was separately liable for breach of a confidentiality agreement between the companies. ABS contends that information passed along by a disloyal former employee was not covered by the agreement and thus that it was entitled to judgment on this point.

III. Appellate Jurisdiction

Because it is rare for our court to see a patent case, we take a moment to examine our appellate jurisdiction. The Federal Circuit has exclusive jurisdiction over any "appeal from a final decision of a district court of the United States ... [1] in any civil action arising under, or [2] in any civil action in which a party has asserted a compulsory counterclaim arising under" the Patent Act ("the Act"). 28 U.S.C. § 1295(a)(1); FED. R. CIV. P. 13(a). We lack appellate jurisdiction if either basis for the Federal Circuit's exclusive jurisdiction was present in the district court, regardless of the claims brought on appeal. See *Kennedy v. Wright*, 851 F.2d 963, 965 (7th Cir. 1988).

Our first inquiry is whether, applying the well-pleaded complaint rule, this case arose under the patent laws. *Christianson v. Colt Indus. Operating Corp.*, 486 U.S. 800, 809 (1988). Following long-established law, the Supreme Court held in *Christianson* that the complaint had to establish “either that federal law creates the cause of action or that the plaintiff’s right to relief necessarily depends on resolution of a substantial question of federal law.” *Id.* at 808 (quoting *Franchise Tax Bd. v. Constr. Laborers Vacation Trust*, 463 U.S. 1, 27–28 (1983)). For patent cases, the well-pleaded complaint must “establish[] either that federal patent law creates the cause of action or that the plaintiff’s right to relief necessarily depends on resolution of a substantial question of federal patent law, in that patent law is a necessary element of one of the well-pleaded claims.” *Id.* at 809. In our case, ABS’s complaint had nothing to do with patent law: it invoked only federal antitrust law and state law. Thus, under *Christianson* this is not a case that arises under the patent laws, and the first potential source of the Federal Circuit’s jurisdiction does not apply.

The second possibility—jurisdiction through a compulsory counterclaim—requires more attention. Patent issues entered this case when Sexing Tech filed a counterclaim asserting patent infringement. If that counterclaim was compulsory, this appeal belongs in the Federal Circuit; if it was permissive, it is properly in this court. Section 1295(a) incorporates the standard of Federal Rule of Civil Procedure 13(a) for determining whether a counterclaim is compulsory. *In re Rearden LLC*, 841 F.3d 1327, 1332 (Fed. Cir. 2016). In applying Rule 13(a), the Federal Circuit examines “(1) whether the legal and factual issues raised by the claim and counterclaim are largely the same; (2) whether substantially the same evidence supports or refutes both the claim and the counterclaim; and

(3) whether there is a logical relationship between the claim and the counterclaim.” *Id.* Our test adds a few additional points: we require that the claim (1) exist at the time of pleading, (2) arise out of the same transaction or occurrence as the opposing party’s claim, and (3) not require for adjudication parties over whom the court may not acquire jurisdiction.” *Burlington N. Ry. Co. v. Strong*, 907 F.2d 707, 710–11 (7th Cir. 1990).

The difference between these standards is immaterial for this case. Sexing Tech’s claim existed at the time of pleading, and it does not require any additional parties, and so we need to assess only the “transaction or occurrence” requirement. To determine whether a claim arises from “the same transaction or occurrence,” this circuit uses the “logical relationship” test, which requires us to examine the factual allegations underlying each claim. *Id.* at 711. The patent and antitrust claims in this case are quite different. ABS’s antitrust claims hinge on Sexing Tech’s competitive practices, such as the use of evergreen clauses in its contracts and other allegedly coercive applications of market power. ABS did contend that Sexing Tech pooled patents for anticompetitive reasons, but the pooling of patents is distinct from questions of infringement and validity. Any relation between the patent and antitrust claims is minor. In fact, patent counterclaims are frequently permissive in antitrust cases. To hold otherwise “would be to hold that the holder of a patent, which is presumptively and facially valid ... must immediately counterclaim with any and every and even, perhaps, every potential claim of infringement against that plaintiff or else lose such claims forever.” *Xerox Corp. v. SCM Corp.*, 576 F.2d 1057, 1061 (3d Cir. 1978) (citation

omitted). The patent counterclaims in this case were permissive, and thus the appeal falls outside of the Federal Circuit's exclusive jurisdiction and is properly in this court.

IV. Obviousness

The patent system is built on a trade-off. On one side of the ledger, the prospect of exclusivity gives inventors an incentive both to innovate and to disclose their inventions, to the benefit of society as a whole. Without the prospect of a patent, inventors may choose other pursuits or hide their innovations from the public. See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480–82 (1974) (noting the tradeoff between patent protection and trade-secret protection). On the other hand, a patent comes at a social cost: the exclusivity given to the inventor prevents competition with respect to the subject matter of the patent for 20 years, see 35 U.S.C. § 154(a)(2), increasing prices for users and preventing future innovators from building on or improving the invention without a license. The patent system may not calibrate those opposing incentives perfectly, see generally Stephen Yelder, *The Value of Accuracy in the Patent System*, 84 U. CHI. L. REV. 1217 (2017), but we are not in the habit of demanding perfection from legislation.

Nonetheless, the Patent Act includes a number of doctrines that are designed in the aggregate to come as close as possible to the socially optimal balance. Prime among them is the bar against the patentability of obvious inventions, which the Supreme Court recognized as a constitutional “absolute prerequisite to patentability” even before Congress codified the requirement in 1952. *Dann v. Johnston*, 425 U.S. 219, 225–26 (1976); see also *Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 155 (1950) (Douglas, J., concurring) (“The

standard of patentability is a constitutional standard”). Extending patent protection to obvious inventions would “withdraw[] what already is known into the field of its monopoly and diminish[] the resources available to skillful men.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007) (quoting *Great Atl. & Pac. Tea Co.*, 340 U.S. at 152–53). As the Act now provides, an invention cannot be patented if it “would have been obvious ... to a person having ordinary skill in the art to which the claimed invention pertains.” 35 U.S.C. § 103.

The Supreme Court has held that “[t]he ultimate judgment of obviousness is a legal determination.” *KSR*, 550 U.S. at 427. In making that determination, courts should adopt the perspective of a skilled artisan not only of “ordinary skill” but also of “ordinary creativity,” who would follow “known options within his or her technical grasp” to solve known problems. *Id.* at 421. ABS says that the ‘987 patent would have been obvious at the time of its invention to a skilled artisan because it merely replaced the traditional droplet method for sorting sperm cells with the photo-damage method, which had been successfully used to sort other types of cells. Sexing Tech responds that there were many factors that would have made photo-damage sorting unlikely to work with sperm cells and thus experimenters would have been discouraged from trying to combine the methods. The jury in the present case found that ABS had infringed Sexing Tech’s ‘987 patent; it thus had to have found that the innovation was *not* obvious. ABS contends that this was error and that all three of the claims at issue are invalid for obviousness. Before resolving this dispute, we say a word about the applicable standard of review.

A. Standard of Review

In *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17 (1966), the Supreme Court held that obviousness is a question of law. See also *KSR*, 550 U.S. at 427. This flows from the Court's acknowledgement that the standard for patentability is "basically constitutional." *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 62–63 (1969). It also reflects the Court's judgment that the question whether an invention meets the criteria of Article I, section 8, clause 8 of the Constitution requires the application of one of those broad legal standards that calls for *de novo* review by appellate courts. See *U.S. Bank Nat'l Assn. v. Village at Lakeridge, LLC*, 138 S. Ct. 960, 966–67 (2018); *Ornelas v. United States*, 517 U.S. 690, 697–98 (1996). Nevertheless, like many legal questions, the obviousness question "lends itself to several basic factual inquiries." *Graham*, 383 U.S. at 17. We review those basic or historical facts only for clear error. *U.S. Bank*, 138 S. Ct. at 966.

As with any appeal from a motion for judgment as a matter of law, we must review all of the evidence in the record in the light most favorable to the nonmoving party, drawing all reasonable inferences in that party's favor. *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150–51 (2000). As applied here, this means that we must assume that the jury settled the underlying facts relevant to obviousness in Sexing Tech's favor. And we note that Sexing Tech has already prevailed on this issue in a different context: after the U.S. Patent and Trademark Office granted the '987 patent, ABS unsuccessfully challenged it in an *inter partes* review proceeding, under which ABS had only the burden of showing a reasonable likelihood of prevailing. See 35 U.S.C. §§ 311, 314(a).

In *Graham*, the Supreme Court highlighted three core features that are pertinent to obviousness: (1) “the scope and content of the prior art,” (2) “differences between the prior art and the claims at issue,” and (3) “the level of ordinary skill in the pertinent art.” 383 U.S. at 17. “Secondary considerations” such as “commercial success, long felt but unsolved needs, [and] failure of others,” are also potentially relevant. *Id.* at 17–18. These are all underlying facts—a point that becomes clear when we recall that in a bench trial on obviousness, “‘subsidiary determinations of the District Court’ [are] subject to Rule 52(a)’s clear error standard.” *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 838–39 (2015) (quoting *Dennison Mfg. Co. v. Panduit Corp.*, 475 U.S. 809, 811 (1986) (*per curiam*)).

B. The Jury’s Verdict

ABS argues that “for the most part the relevant facts were not disputed.” Sexing Tech takes the opposite position, contending that factual disputes abounded. It asserts that whether an artisan would have been “motivated to combine” the prior art is itself a factual question. Sexing Tech asserts that the jury implicitly concluded that the prior art “teaches away” from the ’987 patent’s use of a photo-damage method. But that is hard to say, especially in a case such as this one, where the jury rendered only a general verdict. Special verdicts are the only reliable way to nail down such findings. See FED. R. CIV. P. 49(a); *Roberts v. Sears, Roebuck & Co.*, 723 F.2d 1324, 1341–42 (7th Cir. 1983) (*en banc*).

The mystery question concerns what the jury might have thought about the motivation to combine Johnson’s droplet sorter with a photo-damage method. In the Federal Circuit, motivation to combine is always a factual question that is “[s]ubsumed within the *Graham* factors.” *Pfizer, Inc. v. Apotex*,

Inc., 480 F.3d 1348, 1361 (Fed. Cir. 2007); see also *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238–39 (Fed. Cir. 2010). That court asks “whether there is a known reason a skilled artisan would have been motivated to combine elements to arrive at a claimed combination.” *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1359 (Fed. Cir. 2017). Here, to the extent that there are disputes about the existence of something that would give an artisan a “known reason” to combine prior art elements, the jury’s verdict indicates that it resolved those factual questions in favor of Sexing Tech.

Nevertheless, it does not follow, as Sexing Tech contends, that the existence of factual disputes by itself makes judgment as a matter of law inappropriate. Sexing Tech’s position overstates the importance of a motivation to combine or “teaching away” after *KSR*. *KSR* recognizes that “expert testimony ... may resolve or keep open certain questions of fact,” but “[t]hat is not the end of the issue.” 550 U.S. at 427. Some factors might point away from obviousness and other factors might point toward it, yet judgment as a matter of law might be appropriate. That is because the jury does not have the last word on obviousness; as we noted earlier, it is the court that must resolve the ultimate legal issue.

C. Nonobviousness of ‘987 Patent

Out of all the evidence that was presented, only a small portion bears on the question whether the ‘987 patent was invalid for obviousness. See 35 U.S.C. § 103. There were three pieces of documentary evidence: (1) Johnson’s 1999 article describing his droplet method of sperm sorting; (2) a book chapter written by Jan Keij describing other applications of photo-damage sorting; and (3) the ‘987 patent itself. In addition,

three witnesses opined on the relation among the three devices: Durack, the inventor of the '987 patent; J. Paul Robinson, ABS's expert; and John Nolan, Sexing Tech's expert.

We already have discussed the '987 patent and Johnson's basic method: the former uses a kill laser to sort sperm cells, while the latter uses droplet sorting. ABS contends that the book chapter written by Keij, titled "High-Speed Photo-damage Cell Sorting: An Evaluation of the ZAPPER Prototype," provides a bridge from Johnson's work to the '987 patent. In the book, which was released in 1994, Keij describes the potential applications for a prototype photo-damage sorter he had created. The main benefit of his technique was speed: whereas a droplet sorter topped out at 40,000 sorts per second, a photo-damage sorter could reach 5,000,000 sorts per second. Keij opines that "[s]orting of X or Y chromosome bearing sperm cells for insemination (Johnson *et al.*, 1989) is an interesting possibility." But he also mentions some drawbacks of the technique. The forces involved could kill cells at higher speeds, and tradeoffs would need to be made between yield and purity given imperfections in the kill-laser system.

A good portion of the trial testimony was spent teasing out the implications of Keij's work for sperm sorting. While ABS and Sexing Tech hotly contested those facts, they agreed on many others. There is no real dispute over what counts as prior art, the level of skill for someone having ordinary skill in the art, or over many secondary factors. Yet there were some clashes, including over the question whether it would have been obvious to a skilled artisan to use Keij's photo-damage method in a sperm cell sorter. Three disputes concerning Keij's work were particularly important.

First, two of the witnesses questioned whether Keij actually had rendered the techniques discussed in his article practicable at the time the article was written. Keij's book chapter gives the impression that he had done so, but that was not clear. On cross, ABS's expert Robinson admitted that he previously told the Patent Office that "the methods discussed in Keij were not at the time of publication operable even on the cells discussed therein." Durack characterized Keij's assessments as "optimistic."

Second, the parties disputed how the physical properties of sperm cells would stand up against Keij's photo-damage technique. Nolan testified that sperm cells are "large cells" with "fragile aspects," because sperm cells lack the DNA repair mechanisms that are present in other types of cells. Because Keij's kill laser was "leaky" — meaning it could not precisely and fully be turned off — these fragilities were worrisome. Yet other testimony suggested that these characteristics might not matter: Durack testified that the things that Keij thought might damage cells — sheer forces from the increased speeds of a photo-damage sorter — were not a problem for sperm cells. Durack identified the real weakness deterring the adoption of photo-damaging sperm as the lack of a proper digital signal processor, which would allow the laser to sort more effectively.

Third, the parties disputed whether a skilled artisan would have had reason to think that photo-damage sorting could really work faster than droplet sorting when applied to sperm cells. Lawrence's 1999 article outlining the state of the art in droplet sorting of sperm cells was written after the Keij book chapter. By that time Lawrence had improved the speed of droplet sorters. Characteristics specific to sperm cells are

likely to lower the top speeds otherwise possible through photo-damage techniques. This was enough to create a factual dispute over how much speed a reasonable artisan at the time could have expected to gain by switching to photo-damage sorting.

That brings us to the ultimate question: obviousness. Patents are presumed to be valid under 35 U.S.C. § 282(a). Indeed, the Supreme Court held in *Microsoft Corp. v. i4i Limited Partnership* that invalidity must be proved by clear and convincing evidence. 564 U.S. 91, 95 (2011). With that in mind, we turn to the Supreme Court's decision in *KSR*, which is its most recent pronouncement on obviousness. There, the patent was an adjustable pedal with a fixed pivot point and an electronic sensor attached to the fixed point. *KSR*, 550 U.S. at 411–12. The prior art also included an adjustable mechanical pedal with a fixed pivot point and other adjustable pedals with electronic sensors. *Id.* at 408–09. The Federal Circuit found the innovation *nonobvious* (and thus patentable) because, while it may have been obvious to *try* combining the existing pedals, that was not enough to render the invention obvious for patent purposes. *Id.* at 414. The Supreme Court reversed, holding that when “there are a finite number of identified, predictable solutions” that “lead[] to the anticipated success, ... the fact that a combination was obvious to try might show that it was obvious under § 103.” *Id.* at 421.

This case is similar to *KSR*. The '987 patent discloses three methods known in the art for sorting cells: droplet sorting, photo-damage sorting, and fluid switching (a third method for sorting cells not otherwise at issue). Until that patent issued, sperm cells had been sorted only through droplet sort-

ing. Thus, as in *KSR*, the '987 patent substituted an “identified, predictable solution[]” —photo-damage sorting—into an existing sperm-sorting apparatus. *Id.* If that were all we had, we might be inclined to find that the '987 patent failed for obviousness. But the record paints a more complex picture. Taking the facts in the light most favorable to Sexing Tech, we see significant support for nonobviousness and thus patentability: existing photo-damage sorters were more flawed than Keij implied; droplet sorters' speed had improved, narrowing the speed gap; and sperm cells differ in important ways from other commonly sorted cells.

KSR emphasizes that an invention may be obvious as a matter of law if it employs a “predictable solution” to a known problem. *Id.* The known problem identified by ABS is the need to increase sort speed. Many of the disputed facts suggest that photo-damage sorting would *not* have been obvious even to try to fix this problem. For the final product—sexed semen—to be commercially usable, a sorter must achieve a high degree of purity. Witnesses testified that Keij's photo-damage method would result in potentially large trade-offs in purity and viability, with limited gains in speed. Viewed in this light, Durack did more than would be obvious to a reasonable artisan—even a creative one—by conceiving of a photo-damage sorter that could overcome these roadblocks. (ABS separately argues that Durack did not succeed in that endeavor—meaning that his invention did not sufficiently enable his device—but enablement is different from obviousness. We address enablement below.) An inventor who finds a way to make workable an alternative that had been rejected as impracticable has done more than implement an obvious combination. We conclude that the '987 patent was

nonobvious, and thus that the district court was correct to deny ABS's motion to invalidate it on that ground.

V. Enablement of Dependent Claim 2

Even though the '987 patent does not fail for obviousness, another problem looms: the question whether the jury was fatally inconsistent in its findings that independent Claim 1 of the patent was valid, but that Claim 2, a dependent claim derivative of Claim 1, was not. ABS argues that this discrepancy sinks the verdict for Sexing Tech. Since we have ruled out obviousness as a ground for striking down the entire patent, that leaves only enablement as a possible problem on this record. According to Sexing Tech, the jury could validly have found that the dependent claim was not enabled (and thus was invalid), while finding at the same time that the independent claim was enabled (and thus valid). ABS argues to the contrary that this is logically impossible: an independent claim must encompass all features of the dependent claim, and thus one cannot have an enabled *independent* claim with a non-enabled *dependent* claim.² If the verdicts are indeed irreconcilable, then ABS is entitled to a new trial. *ABM Marking, Inc. v. Zanasi Fratelli, S.R.L.*, 353 F.3d 541, 543 (7th Cir. 2003).

This issue requires us to examine two more doctrines of patent law: the distinction between independent and dependent claims, and the enablement requirement. The Patent Act speaks to both of these.

² The converse is possible: a dependent claim might be enabled even if the independent claim is not, if the independent claim overreached or was otherwise too broad.

A. Independent versus Dependent Claims

Section 112 of the Act addresses independence and dependence:

(c) Form.—A claim may be written in independent or, if the nature of the case admits, in dependent or multiple dependent form.

(d) Reference in Dependent Forms.—Subject to subsection (e), a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

35 U.S.C. § 112(c), (d). The difference between the two types of claims is critical to the question before us. As one treatise puts it:

... [I]ndependent claims are free-standing. The scope of an independent claim can therefore be determined, at least in theory, by referring to that claim only and not to any other claims in the patent. Dependent claims, in contrast, incorporate the contents of a preceding claim by reference. The scope of a dependent claim cannot be ascertained without referring to the claim from which it depends.

1 MOY'S WALKER ON PATENTS § 4:102 (4th ed.). With this in mind, we can see that Claims 2 and 7—both of which specify a method “according to Claim 1”—can only be dependent claims. The finding of an inconsistency between Claim 1 and

Claim 2 cannot, therefore, be salvaged by considering them to be two entirely different patents, nor did either party ever press such an argument. Indeed, the parties accepted the claims construction provided by the district court. Any complaint about the court's conclusion that would amount to asserting a new claim construction for Claim 2 (*e.g.*, an assertion that it is an independent rather than a dependent one) is thus waived. See *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1346–47 (Fed. Cir. 2001).

As we have stressed, a dependent claim “must be narrower than the claim upon which it depends and must not be broader in any respect.” 3 DONALD S. CHISUM, CHISUM ON PATENTS § 8.06[5] (2018) (cited as CHISUM); *AK Steel*, 344 F.3d at 1242. When faced with incompatibilities in dependent and independent claims, the rules of claim construction oblige courts to reconcile them. “Dependent claims often play an important role in determining the scope of the claims upon which they depend.” 3 CHISUM, § 8.06[5]. “Under the doctrine of claim differentiation, each claim in a patent is presumptively different in scope.” *Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.3d 1225, 1233 (Fed. Cir. 2001).

The idea of claim differentiation, while unique to patent law, is closely related to rules of contract or statutory interpretation designed to give meaning to each provision of a contract or statute. It instructs that “dependent claims are presumed to be of narrower scope than the independent claims from which they depend.” *AK Steel Corp.*, 344 F.3d at 1242; see *Wenger Mfg.*, 239 F.3d at 1234 (finding that because dependent claim is limited to “recirculation” of air, independent claim included device that either circulated or recirculated air). One consequence of the “document-as-a-whole” perspective is

that for purposes of claim construction, courts may look to dependent claims to ascertain the full scope of independent claims. *Alcon Research, Ltd. v. Apotex Inc.*, 687 F.3d 1362, 1367 (Fed. Cir. 2012). Dependent claims may broaden the court’s interpretation of the scope of an independent claim to ensure that the dependent claims fit within its scope. *Id.* at 1367–68. On the other hand, a dependent claim may sink an independent claim by revealing that the full scope of the independent claim is unpatentable. *Id.*

B. Enablement in General

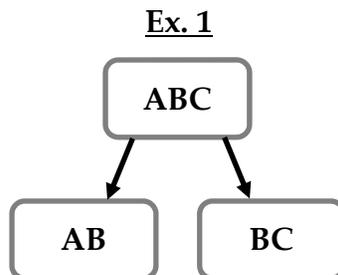
Enablement is defined by the Patent Act, which requires that the specification of a patent “contain a written description of the invention” in “such full, clear, concise, and exact terms as to enable any person skilled in the art ... to make and use the same” 35 U.S.C. § 112(a). Enablement is, at its heart, the requirement that the inventor reveal how the invention works. (The separate written-description requirement addresses what the invention is.) A crucial part of the inventor’s end of the grand patent bargain is the inventor’s full disclosure of the invention. “The scope of the claims must be less than or equal to the scope of the enablement to ensure that the public knowledge is enriched by the patent specification to a degree at least commensurate with the scope of the claims.” *AK Steel Corp. v. Sollac & Ugine*, 344 F.3d 1234, 1244 (Fed. Cir. 2003) (quoting *Nat’l Recovery Techs. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1195–96 (Fed. Cir. 1999)) (internal quotation marks and alterations omitted). Dependent claims are subsets of an independent claim.

Sexing Tech recognizes that broad point, but it suggests that the jury’s verdicts here are reconcilable because the “further limitation” specified in dependent Claim 2—the use of a

sort strategy—may have required it to provide additional instructions beyond what it supplied to support Claim 1. In other words, Sexing Tech argues that aspects of Claim 2 are *broader* than Claim 1. It concludes that the absence of additional information required to enable the broader parts of Claim 2 explains the jury’s verdict. In our view, however, this fundamentally misunderstands the nature of a dependent claim.

Three examples illustrate the difference between the parties’ positions:

Example 1: The independent claim has three elements, ABC. A dependent claim could be limited to fewer elements and thus describe a narrower piece of the invention, AB or BC.



Example 2: The independent claim has three elements, ABC, but element C can be accomplished in two different ways or has independently valuable variants, C₁ and C₂. A dependent claim would then limit the original claim by specifying the particular variant of C, and describe an invention with elements ABC₁ (dependent claim #1), or ABC₂ (dependent claim #2).

Ex. 2

```

graph TD
  ABC[ABC] --> ABC1[ABC1]
  ABC --> ABC2[ABC2]
  
```

ABC

Example 3: The independent claim has three elements, ABC. The inventor asserts that claim ABCD is dependent on claim ABC. D, however, is not contained within the scope of the independent claim.

Ex. 3

```

graph TD
  ABC[ABC] --> ABCD[ABCD]
  
```

ABC

ABCD

Sexing Tech contends that what we have before us is an instance of Example 3. The failure adequately to describe element D, in this case the “sort strategy,” it says, might be the source of the lack of enablement for the dependent claim. It believes that the jury’s problem with Claim 2 was that it describes a non-enabled superset of Claim 1 rather than a narrower subset of that claim.

The problem with Sexing Tech’s logic, as we already have shown, is that a dependent claim cannot include elements that are not found within the independent claim. What Sexing Tech is necessarily arguing, therefore, is that Claim 2 is not in fact a dependent claim reliant on—and importantly, narrower than—Claim 1. While “[t]he interpretation of a patent claim is

exclusively a matter of law for the court.” *ABS Glob., Inc. v. Inguran, LLC*, No. 14-CV-503-WMC, 2016 WL 3963246, at *21 (W.D. Wis. July 21, 2016) (citing *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996)), that does not mean that a party can save such an argument for appeal. At summary judgment, the district court interpreted Claims 1 and 2, and not only upheld Claim 2’s status as a dependent claim but relied on Claim 2’s identity as a narrower subset of Claim 2 to interpret Claim 1. That much was established when the jury received the case, and it had no power to revisit that interpretation of the two claims. In other words, the district court concluded before trial that Claims 1 and 2 are represented by Example 2, not Example 3.

It is possible for an inventor to add to an existing patent in the manner illustrated by Example 3, but that is done with an improvement patent, which adds an additional element not within the scope of original patent. That theory is not available, however, at this stage of the present case. No one ever argued that Claim 2 is an improvement patent that can stand on its own. Moreover, nothing in the jury’s verdict requires us to upset the court’s construction of the claims and to adopt an entirely new theory. As we now explain in greater detail, the nature of dependent claims and the requirements for enablement defeat Sexing Tech’s efforts to reconcile the verdicts on Claim 1 and Claim 2.

Enablement is a practical doctrine that allows for breadth without the need for undue specificity. It is well established that “[t]he full scope of the claimed invention must be enabled.” *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008); see also *Christianson v. Colt Indus. Operating Corp.*, 870

F.2d 1292, 1299 (7th Cir. 1989) (“If the invention can be reproduced in its entire scope, then the patent specifications are enabling.”).

The enablement requirement is satisfied when “one skilled in the art, after reading the specification, could practice the claimed invention without *undue* experimentation.” *AK Steel Corp.*, 344 F.3d at 1244 (emphasis added). Enablement does not require perfectly precise and complete instructions; it demands only that skilled persons will be able to practice the invention after “reasonable” experimentation. *ALZA Corp. v. Andrx Pharmaceuticals, LLC*, 603 F.3d 935, 940 (Fed. Cir. 2010). For a broad claim to be sufficiently enabled, the specification need not “describe how to make and use every possible variant of the claimed invention ... [since] knowledge of the prior art and routine experimentation can often fill gaps, interpolate between embodiments, and perhaps even extrapolate beyond the disclosed embodiments.” *AK Steel Corp.*, 344 F.3d at 1244. Similarly, enablement does not require an inventor to foresee future improvements on the patent—improvements that in principle remain separately patentable and do not undermine the original enablement. 37 C.F.R. § 1.75(e); see Kevin E. Collins, *Enabling After-Arising Technology*, 34 J. CORP. L. 1083, 1099 (2009). A broad independent claim can be sufficiently enabled without explicitly providing for every possible variant or sub-set that may appear in a dependent claim.

The Federal Circuit has indicated that for purposes of enablement, independent and dependent claims must live or die together. In *Alcon Research, Ltd. v. Apotex Inc.*, the patent holder argued that its independent claim could survive a challenge based on obviousness, as long as the court narrowed the scope of the independent claim so as not to include the full

scope of one of the dependent claims. 687 F.3d at 1368. The court responded:

“This is not how patent law works. When you claim a concentration range [in a dependent claim] you can’t simply disavow the invalid portion and keep the valid portion of the claim. *If [part of the dependent claim] is admittedly not enabled, then the entire claim is invalid. ...* Courts do not rewrite the claims to narrow them for the patentee to cover only the valid portion. [Patent holders] cannot have it both ways. Because [the dependent claim] sets forth a concentration range, that range at a minimum must be included in [the independent claim].”

Id. (emphasis added); see also *Ex Parte Forstova*, No. 1998-0667, 2002 WL 32349992, *3 (B.P.A.I. Apr. 11, 2002) (internal citations omitted) (“We first express our concern about the anomalous situation confronting us where *dependent* claims 2–5 are rejected as being non-enabled while claim 1, the independent claim from which these claims directly or indirectly depend, is not rejected. It has long been held that a claim must be enabled throughout its scope. As a matter of logic, assuming claims 2–5 are proper dependent claims and we see no reason why they are not, the examiner’s decision that claims 2–5 are non-enabled *necessarily means* that claim 1 is non-enabled.”)³

³ We need to say a word here about the citation to *Forstova*. The Westlaw version omits about half of this quote, replacing it with “?”. We have added the citation to the slip opinion on the U.S. Patent and Trademark Office’s website, which provides the full text. The full version can

C. Enablement of the '987 Patent

In our case, the parties disputed both the proper construction of “sort strategy” and how Claim 2 should be understood at the summary judgment stage. The district court identified at least three possible sort strategies: “high purity,” “high recovery,” and “constant flow rate.” The court also found that “the process of ‘selecting’ sperm cells based upon their classification at Step (e) of Claim 1 does not necessarily require the application of a sort strategy.” From these insights, the district court recognized that “the application of a sort strategy [is] a more narrow method by which cells to be photo-damaged are identified.” Thus, the district court interpreted Claim 2 as a variant within the broad scope of activity patented by Claim 1. Importantly, Claim 1 does and must cover both A/B sorting accomplished without a second-tier sorting strategy (*i.e.* random sorting), and A/B sorting that includes a further refinement (by purity, recovery, flow rate, or the like). The possibility that Claim 1 does not encompass particular sort strategies was rejected by the district court as a matter of law. Similar cases decided by the Federal Circuit illustrate this pattern of a broader independent claim and the need for the independent claim to enable all of the narrower dependent variants.

In *Sitrick v. Dreamworks, LLC*, 516 F.3d 993 (Fed. Cir. 2008), a patent claimed technology for “integrating a user’s audio signal or visual image into a pre-existing video game or movie.” *Id.* at 995. The Federal Circuit found that “[b]ecause the asserted claims are broad enough to cover both movies

also be found in Jeffrey A. Lefstin, “The Formal Structure of Patent Law and the Limits of Enablement,” 23 *Berkely Tech. L. J.* 1141, 1171 (2008).

and video games, the patents must enable both embodiments.” *Id.* at 1000; see also *Auto. Techs. Int’l v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1285 (Fed. Cir. 2007) (finding that because the claim includes “both mechanical and electronic side impact sensors,” both must be enabled); *Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371, 1380 (Fed. Cir. 2007) (finding that for claimed invention including “an injector system with and without a pressure jacket,” the specification must enable “both injector systems with and without a pressure jacket”).

The district court was aware of these cases, but it thought that they could be distinguished. It wrote that “*Sitrick* stands for the proposition that all embodiments of a particular claim must be enabled, not that a nonenabled, dependent claim renders an enabled independent claim invalid as well.” But this reasoning fails to take into account the fact that a dependent claim, by definition, is one embodiment of the independent claim on which it relies. *Nazomi Commc’ns, Inc. v. Arm Holdings, PLC*, 403 F.3d 1364, 1370 (Fed. Cir. 2005) (noting that dependent “[c]laim 3 describes an embodiment” but that “[c]laim differentiation suggests that different embodiments, reflecting the broader wording of [independent] claim 1, are also permissible”).

The district court had already decided that Claim 1 is broad enough to support a dependent Claim 2. Claim 1 covers a photo-damage sperm sorter that sorts cells based upon their classification for characteristic A or B, whether or not a secondary sort strategy (for purity, recovery, speed, or something else) is used. Claim 2 covers a photo-damage sperm sorter that sorts cells first based upon the A/B classification and then pursuant to a particular sort strategy. If, as Sexing Tech contends, the jury impliedly found that dependent

Claim 2 was not enabled, then it follows that the full scope of Claim 1 was not enabled and it would fail for that reason. In short, for purposes of enablement, once Claim 1 is enabled, dependent Claim 2 must be also.

An example involving simpler technology may help. At oral argument, counsel for Sexing Tech proposed a hypothetical patent for a recliner. The independent claim comprises (1) a headrest, (2) a reclining mechanism, and (3) a footrest. The dependent claim adds an additional limitation to the third limitation: the footrest must be adjustable. This is a proper limitation; it narrows the type of footrest to an adjustable one. A later recliner with a fixed footrest would infringe the independent claim but not the dependent claim. Counsel for Sexing Tech then argued that if the patent failed to teach how to make the footrest adjustable, the dependent claim would be invalid for enablement but the independent claim would not.

But Sexing Tech is describing an independent claim that is not fully enabled and thus invalid. The independent claim would have to cover both fixed and adjustable footrests, and enablement must exist for the full scope of the patent—in this case, all types of footrests. If the specification failed to enable an adjustable foot in the dependent claim, then (as *Alcon Research, supra*, indicated) the full scope of the invention is also not enabled in the independent claim, and *both* claims are invalid for non-enablement. See *Sitrick*, 516 F.3d at 1000.

This result ensures that the inventor of the recliner does not reap broader exclusive rights than she has earned. *Cf. Universal Oil Prods. Co. v. Globe Oil & Refining Co.*, 322 U.S. 471, 483–84 (1944) (finding that the claim must be limited to what was enabled because “the quid pro quo is disclosure of a process or device in sufficient detail to enable one skilled in the

art to practice the invention once the period of the monopoly has expired”). This result is not unduly harsh, because inventors who overreach and claim overbroad independent claims may fall back on whatever dependent claims remain valid. A separate dependent claim limiting “footrest” to “fixed footrest” would remain valid, even if the *independent* claim fails for lack of enablement of the adjustable option. The inventor would be left with patent protection commensurate with the scope of her enabling disclosure.

D. Written Description

Sexing Tech finally points to Professor Donald Chisum’s statement that “[a] dependent claim may not be patentable, despite the allowability of the independent claim, because of the absence of support in the specification for the added limitation.” 3 CHISUM, § 8.06[5][c]. But as one can see from his citation to section 7.04[3] of the treatise, which discusses only the written-description requirement, Chisum is speaking here about the latter requirement, not enablement. *Id.* Of the two cases cited by Sexing Tech, one addresses only written description. See *TurboCare Div. of Demag Delaval Turbomach. Corp. v. General Elec. Co.*, 264 F.3d 1111, 1115–16, 1126 (Fed. Cir. 2011). The second case noted in *dicta* that dependent claims “raise additional written description and enablement issues,” but the court found no such problems. *Chiron Corp. v. Genentech, Inc.*, 268 F. Supp. 2d 1148, 1166–67 (E.D. Cal. 2002). Neither case squarely raises the issue whether a dependent claim could create an independent *enablement* issue, rather than an independent *written description* issue.

The written description and enablement criteria operate differently and serve different interests. *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1345 (Fed. Cir. 2010) (*en banc*).

Section 112 of the Act requires that “[t]he specification shall contain a written description of the invention,” 35 U.S.C. § 112(a), and then it calls for disclosure of the *manner and process of making and using* the invention, *id.* (emphasis added). Enablement protects the public’s right to benefit from the patented invention after the patent expires, while the written description requirement focuses on the nature and scope of the claimed invention. *Martin v. Mayer*, 823 F.2d 500, 504–05 (Fed. Cir. 1987), *recognized as superseded by rule on other grounds by Kubota v. Shibuya*, 999 F.2d 517, 521 (Fed. Cir. 1993) (“Section 112 does not require that the specification contain that which is known to those skilled in the art. But it does require specificity as to the claim limitations”) (citation omitted).

For our purposes, the crucial difference between these two requirements is that the specification need not feature a written description of every specific variant within the scope of the claim. For example, “every species in a genus need not be described in order that a genus meet the written description requirement.” *AbbVie Deutschland GmbH & Co. v. Janssen Biotech, Inc.*, 759 F.3d 1285, 1301 (Fed. Cir. 2014) (quoting *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1568 (Fed. Cir. 1997)) (alterations omitted). Indeed, it would make little sense for a written description requirement explicitly to include every possible iteration of the broader invention. To do so would encourage patentholders to write out potentially infinite possibilities. Unlike enablement, where gaps in the specification can be filled by the knowledge of a skilled artisan, the written-description requirement is held to the letter and is satisfied only if a skilled artisan reading the application would understand that a given limitation is at issue. “[C]onsider the case where the specification discusses only Compound A and contains no broadening language of any kind.

This might very well enable one skilled in the art to make and use Compounds B and C; yet the class consisting of A, B and C has not been described." *In re DiLeone*, 436 F.2d 1404, 1405 n.1 (C.C.P.A. 1971). Thus, the descriptions for dependent claims may be inadequate even if the description of the independent claim is fine. Indeed, dependent claims may be *more likely* than independent claims to fail the written description requirement simply because they feature more limitations.

More limitations make for a heavier burden on the written description requirement, but they lessen the burden for enablement. *Ex Parte Grasselli*, 231 U.S.P.Q. 393, 1983 WL 51855 *2 (P.T.O. Bd. App. 1983) (finding that "the negative limitations recited in the present claims, which did not appear in the specification as filed, introduce new concepts and violate the [written] description requirement" despite the Board's statement that it found no problem with lack of enablement). Limitations narrow the scope of the claim, and so there is less to be enabled. Although it is certainly possible for a dependent claim to be more enabled than the independent variant, it is impossible for it to be less so. *Martek Biosciences Corp. v. NutriNova, Inc.*, 579 F.3d 1363, 1377–78 (Fed. Cir. 2009) (enablement evidence supporting dependent claims was stronger than evidence for independent claim because dependent claims' narrower set of possibilities was discoverable with reasonable experimentation, while broader independent claim was not).

Applying these principles to our case, we conclude that the jury's verdicts were irreconcilable. A proper dependent claim cannot fail for lack of enablement while its independent claim stands, because the dependent claim's scope is a subset of the independent claim's scope. The full scope of Claim 1 of the '987 patent cannot have been enabled at the same time as

the full scope of Claim 2 was not. With enablement and obviousness eliminated as possible explanations, there is no plausible explanation for the jury's verdict, and a new trial is necessary on this aspect of the case.

VI. Confidentiality Agreement

Finally, we step away from the world of patent law and back to more familiar territory: breach of contract. The contract at issue is the "Semen Sorting Agreement," which is the main document governing the relationship between ABS and Sexing Tech. The jury found that ABS breached the confidentiality commitment in this agreement when Kathy Mean, a former employee of XY (recall that XY is a subsidiary of Sexing Tech), brought trade secrets with her to ABS. ABS concedes the theft but argues that the stolen trade secrets cannot give rise to a breach of contract because the agreement covered only information "provided by Sexing Tech." The district court disagreed and denied ABS's motion for judgment as a matter of law, finding that the contract was ambiguous on this point. We review the district court's interpretation of the contract *de novo*. *BKCAP, LLC v. CAPTEC Franchise Trust 2000-1*, 572 F.3d 353, 358 (7th Cir. 2009).

The question for us is simple: could "Sexing Tech's Confidential Information," as defined by the Semen Sorting Agreement, reasonably include information stolen by a former employee of a Sexing Tech subsidiary? Under Texas law—which the parties agree governs this contract—"[a]n ambiguity does not arise simply because the parties offer conflicting interpretations." *Am. Mfg. Mut. Ins. Co. v. Schaefer*, 124 S.W. 3d 154, 157 (Tex. 2003). It exists "only if the contract language is susceptible to two or more reasonable interpretations." *Id.* at 157. Extrinsic evidence, however, cannot create ambiguity where

it does not exist. *Nat'l Union Fire Ins. Co. of Pittsburgh v. CBI Indus., Inc.*, 907 S.W.2d 517, 520 (Tex. 1995). Texas courts read contracts as a whole. See *id.* The provision in question reads as follows:

As used herein, the term "ST's Confidential Information" shall mean (i) that information pertaining to the research, processing or production of Sorted Semen that is disclosed by ST or its Affiliates to ABS and is confidential, non-public, proprietary and/or generally not known to the public, to include but not limited to: any and all information relating to technology, methods, techniques, processes, know-how, concepts, secrets, and scientific or technical know-how, whether such information be tangible, intellectual or otherwise; and (ii) any information related to Sorted Semen that is based on or derived from any of the foregoing, whether by ABS or ST or third parties. ST's Confidential Information shall encompass all of the foregoing information whether provided by ST in writing, orally or by other means. ABS agrees that as a recipient of ST's Confidential Information, ABS shall not use, disclose, or make available ST's Confidential Information to any third party, except for those representatives of ABS that have an actual need to know such ST's Confidential Information in connection with the performance of this Agreement. The foregoing confidentiality obligations shall continue for ten (10) years from the expiration or termination of this Agreement.

ABS says that the provision limits "ST's Confidential Information" to information "provided by" or "disclosed by" Sexing Tech. Sexing Tech responds that subsection (ii) of the

agreement brings information not provided directly by Sexing Tech within the meaning of “Confidential Information,” or at least creates enough ambiguity to send the issue to the jury.

The language of this provision is broad: it encompasses information disclosed either by Sexing Tech itself or its affiliates. It also covers all methods of providing information, whether in writing, orally, or “by other means.” This language comfortably includes Means’s actions. Nothing indicates that she had a source other than Sexing Tech for the information she conveyed. She simply funneled that information from Sexing Tech to ABS. The jury’s finding that this amounted to a breach by ABS of the confidentiality agreement thus rested on a proper understanding of the contract language.

VII. Conclusion

The district court’s decision denying ABS’s motion for judgment as a matter of law on the ground that the ’987 patent fails for obviousness is **AFFIRMED**. We also **AFFIRM** the court’s denial of ABS’s motion for judgment as a matter of law on the breach of the confidentiality agreement. We conclude that the jury’s verdicts with respect to the enablement of Claims 1 and 2 are irreconcilably inconsistent. We therefore **REVERSE** the denial of ABS’s motion for a new trial on the ’987 patent and **REMAND** for further proceedings consistent with this opinion. Each side will bear its own costs on appeal.

APPENDIX

U.S. Patent No. 8,206,987 B2
PHOTO-DAMAGE METHOD FOR SORTING PARTICLES
[Claims 1, 2, and 7]

What is claimed is:

1. A method of sorting a mixture of stained sperm cells having either characteristic A or characteristic B into at least one population, the method comprising the steps of:
 - a. flowing a fluid stream containing stained sperm cells through a flow path at a fluid delivery rate;
 - b. exciting fluorescence emissions from the stained sperm cells having characteristic A and the stained sperm cells having characteristic B flowing in the flow path;
 - c. detecting the fluorescence emissions from the excited sperm cells;
 - d. classifying the stained sperm cells as either having characteristic A or having characteristic B based upon the fluorescence emissions;
 - e. selecting stained sperm cells in the flow path based on their classification; and
 - f. photo-damaging the selected sperm cells to produce an enriched population of sperm with respect to either characteristic A or characteristic B.

2. A method of sorting a mixture of stained sperm cells according to claim 1 wherein the step of selecting stained sperm cells in the flow path to photo-damage further comprises the step of photo-damaging sperm cells based upon a sort strategy.

7. A method of sorting a mixture of stained sperm cells according to claim 1 wherein characteristic A is indicative of a live X-chromosome bearing sperm cell (X) and wherein characteristic B is indicative of something other than a live X-chromosome bearing sperm cell (-X).