

United States Court of Appeals for the Federal Circuit

04-1329

ULTRA-PRECISION MANUFACTURING, LTD.,

Plaintiff-Appellant,

v.

FORD MOTOR COMPANY,

Defendant-Appellee.

Andrew Kochanowski, Sommers, Schwartz, Silver & Schwartz, P.C., of Southfield, Michigan, argued for plaintiff-appellant. With him on the brief was James J. Vlasic. Of counsel on the brief was Michael H. Baniak, Baniak Pine & Gannon, of Chicago, Illinois.

Ernie L. Brooks, Brooks Kushman P.C., of Southfield, Michigan, argued for defendant-appellee. With him on the brief were Frank A. Angileri and Marc Lorelli.

Appealed from: United States District Court for the Eastern District of Michigan

Judge Victoria A. Roberts

United States Court of Appeals for the Federal Circuit

04-1329

ULTRA-PRECISION MANUFACTURING, LTD.,

Plaintiff-Appellant,

v.

FORD MOTOR COMPANY,

Defendant-Appellee.

DECIDED: June 15, 2005

Before MAYER*, CLEVENGER, and LINN, Circuit Judges.

LINN, Circuit Judge.

Ultra-Precision Manufacturing, Ltd., (“Ultra-Precision”) appeals from a judgment of the United States District Court for the Eastern District of Michigan (“district court”) denying Ultra-Precision’s claim that Ross Herron (“Herron”) and Gary Beard (“Beard”) were joint inventors of U.S. Patent No. 5,236,312 (“the ’312 patent”). Ultra-Precision Mfg., Ltd. v. Ford Motor Co., No. 01-70302 (E.D. Mich. Mar. 30, 2004) (“Inventorship Opinion”); Ultra-Precision Mfg., Ltd. v. Ford Motor Co., No. 01-70302 (E.D. Mich. Mar. 30, 2004) (“Final Judgment Order”). Ultra-Precision also appeals from the district court’s grant of summary judgment to Ford on Ultra-Precision’s unjust enrichment claim,

* Haldane Robert Mayer vacated the position of Chief Judge on December 24, 2004.

which the district court held preempted, as pled, by federal patent law. Ultra-Precision Mfg., Ltd. v. Ford Motor Co., No. 01-70302 (E.D. Mich. Sept. 23, 2003) (“Nunc Pro Tunc Order”); Ultra-Precision Mfg., Ltd. v. Ford Motor Co., No. 01-70302 (E.D. Mich. Sept. 23, 2003) (“Summary Judgment Order II”). Because the district court did not abuse its discretion in permitting Ford to raise the preemption defense during pre-trial motions, because the district court did not err in holding that Ultra-Precision’s unjust enrichment claim was preempted as pled, because the district court’s findings of fact with respect to inventorship were not clearly erroneous, and because its conclusion of law with respect to inventorship was correct, we affirm.

I. BACKGROUND

In the mid-1980’s, Ford engaged in an effort to reduce excessive noise, vibration, and harshness (“NVH”) in an air conditioner compressor it referred to as “the FX-15.” Ford assigned several engineers including Eugene Warman (“Warman”) to work on the project. By 1987, Ford had found at least a partial solution, which became the subject of a patent application that matured into U.S. Patent No. 4,929,157 (“the ’157 patent”). Ford’s solution described in the ’157 patent added a pulse damper (“PD”) tube at the outlet port of the compressor to reduce peak-to-peak pressure pulsations thought to be a cause of NVH. Although Ford’s PD tube achieved a pressure pulse reduction meeting its objective, Ford did not commercialize its PD tube because of concerns about possible damage from the accumulation of liquid refrigerant in compressors incorporating this design.

In 1988, Frank Sullivan, an employee in Ford’s Climate Control Division, reached out to Herron and Beard at Ultra-Precision for help in solving the NVH problem. Herron,

an industrial engineer, had worked for Ford until 1957. Beard had worked as a product design engineer at Ford until he retired in 1988. After Beard's retirement, Herron and Beard formed Ultra-Precision, which was engaged in the business of designing, engineering, and manufacturing prototype equipment for the automotive industry. Responding to Sullivan's request, Herron and Beard eventually met with Warman, who explained Ford's interest in solving the NVH problem by finding a way to lower the peak-to-peak pressure pulse level below 6.25 PSI while eliminating the need for an in-line muffler. When Herron and Beard met with Warman, Ultra-Precision believed that the in-line muffler added approximately five dollars to the cost of each unit and that it could solve the NVH problem and eliminate the in-line muffler for a fraction of the muffler's cost on a per unit basis. There is nothing in the record to indicate that Ultra-Precision and Ford ever entered into a written agreement. Notwithstanding the absence of any written agreement or confidentiality undertaking, Herron and Beard set out to work on the project. They disassembled an FX-15 compressor to determine how it functioned, studied its construction and operation, and, on January 18, 1989, conceptualized a solution.

They theorized that pulses of pressurized refrigerant from each side of the five reciprocating, cylindrically arranged cylinders within the compressor were superimposing into five large pressure pulses before the pulses left the discharge side of the compressor, thereby causing NVH. Their solution was to change or manipulate the paths of the pulses to make gas flow roughly equidistant and thereby maintain pulse separation. To accomplish that, they used a PD tube to redirect gas much like Ford's earlier PD tube. However, Ultra-Precision's tube had a tighter fit in the outlet port and

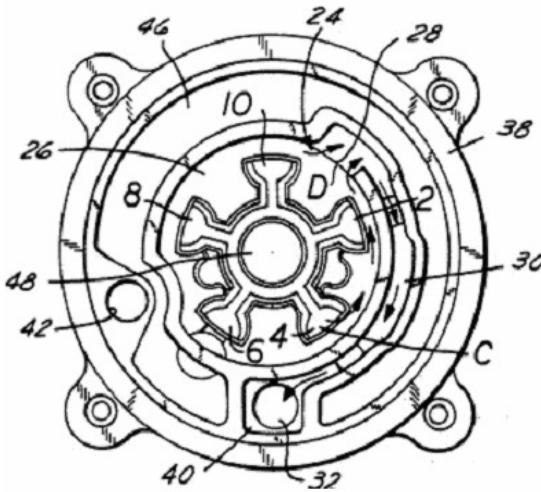
employed grooves to better reroute and directionalize fluid flow. Herron and Beard delivered prototypes of their PD tube to Ford for testing. Ford conducted tests and Warman informed Herron and Beard that the peak-to-peak discharge level of their PD tube was 4.7 PSI, well within Ford's 6.25 PSI upper limit target. Herron and Beard told Warman that a compressor housing could be integrally cast to incorporate their new design. In May 1989, Herron and Beard understood that their PD tube design was approved for production by Ford. They subsequently presented Ford with a cost of \$0.31 per unit.

On July 7, 1989, Herron and Beard filed a patent application on their PD tube invention. The application matured into U.S. Patent No. 4,934,482 ("the '482 patent"). On June 15, 1990, Herron and Beard filed a continuation-in-part application, which matured into U.S. Patent No. 5,133,647 ("the '647 patent"). Herron and Beard assigned both patents to Ultra-Precision. To obtain the '482 patent, Herron and Beard had to distinguish their invention over Ford's earlier '157 patent. The '482 patent thus called for the use of "grooves" on the PD tube's outer surface, which would direct the pulses through the valve plate in a controlled manner. See, e.g., '482 patent, col. 5, ll. 32-47. The '647 patent mentioned that the pulse damper could be integrally cast into the compressor housing. '647 patent, col. 5, ll. 61-63.

In July 1990, Herron and Beard met with Jim Graham, an employee in Ford's vehicle office, to discuss installation of compressors with Ultra-Precision's PD tube into concept cars. In October 1990, Herron delivered compressors to Graham with Ultra-Precision PD tubes installed for testing. But shortly thereafter, Herron and Beard received a letter dated October 18, 1990, from Thomas E. Finn ("Finn"), a Ford engineer

who had replaced Warman, complaining about Herron and Beard's "actively trying to sell the merits of the P.D. Tube to various vehicle offices" within Ford rather than Ford's Climate Control Division and the inefficiencies attendant thereto. In the letter, Finn stated that he was "well aware of the merits of the P.D. Tube" and that he was "investigating its performance with other design changes." He also remarked that the PD tube "does not work well alone in our system," and "[i]f it had, [Ford] would have implemented the change." Finn advised Herron and Beard to direct their future contacts to the Climate Control Division. After concluding that Ford was not interested, Ultra-Precision decided simply to move on to other projects, leaving Finn's letter as the last communication between Ultra-Precision and Ford.

Finn and his team continued to work on solving the FX-15's NVH problem, and sometime after December 7, 1990, studied a compressor made by Nippondenso ("Denso"). The Denso compressor had an internal cast-in muffler cavity. The gases of the Denso device exited from the center and did not have the axial offset of the FX-15, i.e., the additional distance the gas from the front had to travel to reach the rear discharge cavity. To correct for axial offset in the FX-15, Finn modified the rear cylinder head to include an internally cast "arcuate transfer cavity," as shown below.



By design, the travel length of the rear gases through the arcuate cavity was made approximately equal to the travel length of the front gases through the axial discharge cavity. In this way, Ford corrected for NVH caused by "axial offset."

Finn also theorized that because each compressor employed five double-ended pistons in a cylindrical array, the travel distances between the respective discharge ports of the cylinders and the compressor output differed circumferentially and introduced what he called "cylinder offset." He corrected for "cylinder offset" by moving the rear discharge port circumferentially by 144° to a position between cylinders (2) and (4), thereby equalizing the lengths from opposing cylinders to the discharge port of the compressor. On December 23, 1991, Finn's team filed a patent application, which matured into the '312 patent.

In 1993, Ford began to incorporate Finn's redesigned compressor, designated "the FS-10," into its vehicles. In 2000, Herron and Beard noticed a Ford vehicle with an air conditioner compressor that did not have an in-line muffler, conducted an investigation, and discovered what they believed to be their solution embodied in the FS-10.

II. Procedural History

On January 22, 2001, Ultra-Precision filed suit against Ford on four counts: (1) unjust enrichment; (2) correction of inventorship; (3) commercial misappropriation; and (4) breach of contract. (Compl. at 6-8.) Ultra-Precision did not claim infringement of its '482 or '647 patents, misappropriation of a trade secret, or breach of a confidentiality agreement. Indeed, Ultra-Precision's complaint did not allege that its solution was at any time disclosed to Ford in confidence or kept as a trade secret. Ultra-Precision claimed it was aware of a Ford policy intended to provide an incentive to Ford's existing suppliers by sharing with a supplier one-half of any cost savings achieved by that supplier's innovation. Ultra-Precision also alleged that its motivation to help Ford was to take advantage of this policy. Because Ultra-Precision dropped the contract claim early in the litigation, the district court made no fact findings as to Ford's supplier cost-saving policy or why Ultra-Precision believed that it qualified or otherwise might have been entitled to benefit from that policy. The commercial misappropriation count also was resolved early in the litigation by the district court's grant of a motion filed by Ford for summary judgment, a determination Ultra-Precision does not appeal.

This left only the inventorship and unjust enrichment counts at issue. On the first of these counts, Ultra-Precision initially contended that Herron and Beard were the only inventors of the '312 patent. On the second count, Ultra-Precision alleged that it solved a problem that Ford could not solve and that Ultra-Precision's financial incentive in solving the problem was the benefit it anticipated under Ford's cost savings program. (Compl. at 2-4.) More specifically, the unjust enrichment count of the complaint averred:

23. Plaintiff has conferred a measurable benefit upon Defendant by designing, engineering and inventing the solution to the FX-15 compressor's NVH problem which FMC was unable to do by itself.
24. Defendant has been, continues to be, and will in the future be unjustly enriched by (a) using, manufacturing, and selling vehicles equipped with Plaintiff's technology without compensating Plaintiff, and (b) patenting Plaintiff's invention, and maintaining, and exercising exclusive rights thereto to the exclusion of Plaintiff until the year 2010 or later.

(Compl. at 6.) Ultra-Precision alleged that Ford had benefited by:

- d. Defendant's cost savings of developing a successful NVH-suppression technology for the FX-15 compressor;
- e. Defendant's past cost savings for not paying Plaintiff under the 1989 cost savings program for the life of the FX-15 part; [and]
- f. Defendant's future cost savings for not paying Plaintiff under the 1989 cost saving program for the life of the FX-15 part[.]

(Compl. at 9.) In contesting the unjust enrichment count, Ford first filed a motion for summary judgment, which the district court denied. Ultra-Precision Mfg., Ltd. v. Ford Motor Co., No. 01-70302 (E.D. Mich. May 31, 2002) ("Summary Judgment Order I").

The district court held that Ultra-Precision had stated a claim for unjust enrichment under Michigan law. The district court reasoned that Ultra-Precision's unjust enrichment claim was similar to the claim at issue in B & M Die Co. v. Ford Motor Co., 421 N.W.2d 620, 622 (Mich. Ct. App. 1988), and that "[t]he form of plaintiff's ownership of the idea at issue [in B & M Die] was not material to the [Michigan] court's decision that the jury could consider the extent to which defendant benefited from plaintiff's [technical] information." Summary Judgment Order I at 18. The district court, sua sponte, raised the question of preemption but held that federal patent law did not preempt the unjust enrichment claim, citing University of Colorado Foundation v. American Cyanamid, 196 F.3d 1366, 1371 (Fed. Cir. 1999). Summary Judgment Order I at 13.

During the course of the summary judgment proceedings, Ultra-Precision modified its position on the inventorship count to drop the allegation that Herron and Beard were the only inventors of the '312 patent and instead asserted that they were joint inventors, along with the Ford inventors already named. Thereafter, in two June 24, 2002, motions in limine, Ford, for the first time on its own accord, raised the defense that federal patent law preempted Ultra-Precision's unjust enrichment claim. Ford argued to exclude evidence of damages based on Ford's alleged savings resulting from: (a) use of the invention of the '312 patent, and (b) use of ideas disclosed in Ultra-Precision's patents but not claimed. On July 10, 2002, Ultra-Precision filed a brief in response arguing that Ford waived the preemption defense by not presenting it in its answer and, regardless, that the unjust enrichment claim is not preempted.

On August 16, 2002, the district court held a hearing on Ford's motions and then ruled from the bench that Ford did not waive the preemption defense because Ford raised the issue before the pretrial order, in accord with Fitzgerald v. Mallinckrodt, Inc., 681 F. Supp. 404, 405 (E.D. Mich. 1987). The district court also commented that Ultra-Precision originally pled that Herron and Beard were the only inventors, suggesting that the new defense was not available until Ultra-Precision changed its position to assert joint inventorship with the Ford inventors. The district court then took Ford's motions in limine under advisement, and in an August 21, 2002 order, ruled in Ford's favor. Following its ruling, the district court invited Ultra-Precision to amend its complaint and either allege an unjust benefit other than cost-savings from the use of Ultra-Precision's idea after issuance of Ultra-Precision's patents, or state a claim for unjust enrichment on grounds other than Herron and Beard's alleged status as co-inventors. Ultra-Precision

declined. On September 5, 2002, the district court entered a Rule 54(b) certification of the August 21, 2002 order on the motions in limine. Ultra-Precision appealed. On July 23, 2003, we held that the evidentiary order was not a final disposition of the unjust enrichment claim that could be certified for appeal and remanded the case to the district court. Ultra-Precision Mfg. Ltd. v. Ford Motor Co., 338 F.3d 1353, 1360 (Fed. Cir. 2003).

Following this court's remand, on September 23, 2003, the district court entered a nunc pro tunc order clarifying the disposition of the unjust enrichment claim. The district court explained that Ultra-Precision's claim "based upon [Ford's] unauthorized use of a concept that Plaintiff admits was not patented and that was publicly disclosed in Plaintiff's '482 and '647 patents" was preempted under Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141 (1989). Nunc Pro Tunc Order at 3. The district court also reasoned that 35 U.S.C. § 262 precluded Ultra-Precision from obtaining an "accounting" from joint inventors. Id. The district court thus granted summary judgment on the unjust enrichment count to Ford. Summary Judgment Order II at 1. A non-jury trial was then held on the remaining inventorship count, and on March 30, 2004, the district court made findings of fact and concluded as a matter of law that Herron and Beard were not joint inventors. Inventorship Opinion. The district court then entered a final judgment from which Ultra-Precision appeals, challenging the district court's rulings on waiver, preemption, and joint inventorship. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

III. ANALYSIS

A. Standard of Review

Regional circuit law governs the question of waiver of a defense. Riverwood Int'l Corp. v. R.A. Jones & Co., 324 F.3d 1346, 1352 (Fed. Cir. 2003). The Sixth Circuit reviews a finding that a party did not waive an affirmative defense for abuse of discretion. Smith v. Sushka, 117 F.3d 965, 969 (6th Cir. 1997). Federal Circuit law governs whether federal patent law preempts a state law claim. Midwest Indus., Inc. v. Karavan Trailers, Inc., 175 F.3d 1356, 1361 (Fed. Cir. 1999). Preemption is a question of law reviewed de novo. See Dow Chem. Co. v. Exxon Corp., 139 F.3d 1470, 1473-79 (Fed. Cir. 1998). In analyzing inventorship, a district court makes underlying findings of fact and then decides inventorship as a matter of law. Trovan, Ltd. v. Sokymat SA, Irori, 299 F.3d 1292, 1301 (Fed. Cir. 2002). We review those findings of fact for clear error and conclusions of law de novo. Id.

B. Waiver

Ultra-Precision argues that the district court abused its discretion in allowing Ford to raise preemption because Ford did not plead preemption or raise the defense earlier than the time of the pre-trial motions. “Failure to raise an affirmative defense by responsive pleading does not always result in waiver. The purpose of Rule 8(c) of the Federal Rules of Civil Procedure is to give the opposing party notice of the affirmative defense and a chance to respond.” Sushka, 117 F.3d at 969 (citing Moore, Owen, Thomas & Co. v. Coffey, 992 F.2d 1439, 1445 (6th Cir. 1993)). In Sushka, the court found no abuse of discretion in the district court’s permitting defendant to raise two affirmative defenses in a second motion for summary judgment because there was no

unfair prejudice given that the district court allowed plaintiff the opportunity to fully respond to and brief the issues. 117 F.3d at 969.

Here, preemption first entered the case when the district court addressed the issue, sua sponte, in denying Ford's initial motion for summary judgment on unjust enrichment. Although Ford did not raise preemption on its own accord until its motions in limine, the district court afforded Ultra-Precision the opportunity to respond to Ford's preemption argument through both briefing and oral argument. Thus, the district court's ruling is consistent with the Sixth Circuit's decision in Sushka and the district court's earlier ruling in Fitzgerald, 681 F. Supp. at 405, in which it held that a preemption defense was not waived if raised anytime before the pretrial order, even if not pled as an affirmative defense. We find no basis to conclude that the district court abused its discretion in finding no waiver. The cases to which Ultra-Precision cites are not germane.

C. Preemption

1. The Parties' Arguments

Ultra-Precision argues that Michigan unjust enrichment law permits a plaintiff to present evidence to a jury of a defendant's unjust benefit from the use of technical information given to defendant by plaintiff, regardless of plaintiff's property interest, vel non, in the technical information. Ultra-Precision asserts that given Ford's supplier cost-savings policy, the money Ford saved by not paying Ultra-Precision under that policy is the fairest measure of Ford's unjust benefit. Ultra-Precision argues that this court's decisions in the American Cyanamid cases recognize the distinction, for preemption purposes, between an unjust enrichment claim, which is a claim in quasi-contract, and a

claim for infringement of a property right. Ultra-Precision argues that just as federal patent law does not preempt a damage recovery based on use of an idea in the public domain on an express contract theory, Aronson v. Quick Point Pencil Co., 440 U.S. 257, 266 (1979), federal patent law should not preempt a damage recovery based on use of an idea in the public domain on a quasi-contract claim. Ultra-Precision asks that we permit its unjust enrichment claim to proceed because we allow claims to proceed based upon misappropriation of a trade secret, Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 493 (1974), or use of non-functional trade dress, Midwest Indus., 175 F.3d at 1364-65.

Ford argues that Ultra-Precision is seeking an award of damages for the making, using, and selling of information and ideas not protected under federal patent law and that federal patent law preempts such a claim, relying on Bonito Boats. Ford asserts that Aronson is inapposite because it dealt with an express contract and here Ultra-Precision pled and dropped its contract claim. Ford also argues that American Cyanamid is distinguishable because Ultra-Precision does not claim an incremental benefit based on incorrect inventorship. Finally, Ford argues that Waner v. Ford Motor Co., 331 F.3d 851 (Fed. Cir. 2003), was decided on similar facts and supports its preemption defense.

2. Discussion

Under the Supremacy Clause, state law that conflicts with federal law is without effect. U.S. Const. art. VI, cl. 2; Bonito Boats, 489 U.S. at 168; Hunter Douglas, Inc. v. Harmonic Design, Inc., 153 F.3d 1318, 1331 (Fed. Cir. 1998), overruled in part on other grounds by, Midwest Indus., 175 F.3d at 1361. Preemption can be any of three types:

explicit, field, or conflict preemption. Hunter Douglas, 153 F.3d at 1332. Because federal patent law does not provide explicit preemption, 35 U.S.C. §§ 1-376 (2000); Hunter Douglas, 153 F.3d at 1332, and because Congress does not intend to occupy exclusively the field of unjust enrichment law, American Cyanamid, 196 F.3d at 1371, we are concerned in this case with only conflict preemption. Conflict preemption occurs when state law “stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress.” Aronson, 440 U.S. at 262 (quoting Hines v. Davidowitz, 312 U.S. 52, 67 (1941)).

Federal law preempts state law that offers “patent-like protection” to discoveries unprotected under federal patent law. Bonito Boats, 489 U.S. at 156. Federal patent law reflects the objectives of Congress, which include “seek[ing] to foster and reward invention,” “promot[ing] disclosure of inventions to stimulate further innovation and to permit the public to practice the invention once the patent expires,” promoting “the stringent requirements for patent protection . . . to assure that ideas in the public domain remain there for the free use of the public,” Aronson, 440 U.S. at 262 (citing Kewanee Oil, 416 U.S. at 480-81), providing a “clear federal demarcation between public and private property,” and promoting “nationwide uniformity in patent law,” Bonito Boats, 489 U.S. at 162-63. A state cause of action that frustrates these objectives is preempted. Id. at 156-57, 161; Aronson, 440 U.S. at 262.

Under Michigan law, “a person who has been unjustly enriched at the expense of another is required to make restitution to the other.” Kammer Asphalt Paving Co. v. E. China Township Schs., 504 N.W.2d 635, 640 (Mich. 1993) (quoting Restatement of Restitution § 1 (1937)). “The essential elements of such a claim are (1) receipt of a

benefit by the defendant from the plaintiff, and (2) which benefit it is inequitable that the defendant retain.” B & M Die, 421 N.W.2d at 622. The district court held that Ultra-Precision stated a cognizable unjust enrichment claim. Neither party, on appeal, challenges the conclusion that Michigan law is broad enough to permit an unjust enrichment plaintiff to recover an unjust benefit received, even if that benefit was related to and calculated on the basis of the use of information available to the public.

Thus, the question presented in this case is whether permitting a court to entertain the specific unjust enrichment claim pled by Ultra-Precision—seeking damages for Ford’s making, using, and selling vehicles equipped with the solution to the FX-15 compressor NVH problem that Ultra-Precision contends it designed, engineered, and invented, but did not protect under the federal patent laws—“stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress” and is thus preempted. See American Cyanamid, 196 F.3d at 1371 (evaluating whether an unjust enrichment claim was preempted as pled).

This court has on three occasions considered whether federal patent law preempts state law unjust enrichment claims. In Waner, a panel majority held that the district court properly granted summary judgment to Ford on Waner’s unjust enrichment claim seeking restitution for the use of an idea over a time period after Waner disclosed the idea to the public, but before Waner secured a patent. 331 F.3d at 856-57. The majority found that “there [wa]s no genuine issue of material fact that Waner’s fender liner was introduced to and available to the public.” Id. at 857. The court relied on Bonito Boats. In that case, the Supreme Court held that federal patent law preempted a Florida statute making it unlawful for a person to use a particular molding process to

duplicate boat hulls. 489 U.S. at 144-45. The statute provided for injunctive relief and damages. Id. The Supreme Court remarked that “[a] state law that substantially interferes with the enjoyment of an unpatented utilitarian or design conception which has been freely disclosed by its author to the public at large impermissibly contravenes the ultimate goal of public disclosure and use which is the centerpiece of federal patent policy.” Id. at 156-57; accord Compco Corp. v. Day-Brite Lighting, Inc., 376 U.S. 234, 237-38 (1964); Sears, Roebuck & Co. v. Stiffel Co., 376 U.S. 225, 230-33 (1964). Applying Bonito Boats, the majority explained that “[a]bsent secrecy, state law cannot create a collateral set of rights available as an adjunct or expansion to patent rights.” Waner, 331 F.3d at 856; accord Darling v. Standard Alaska Prod. Co., 818 P.2d 677, 682 (Alaska 1991) (holding that federal patent law preempted a state law unjust enrichment claim seeking restitution based on the use of an idea in the public domain).

Apart from the broad statements in Waner, the majority noted that “[w]ere Michigan case law the applicable law here, [it] could have a bearing on the result.” Waner, 331 F.3d at 856 n.2. The majority applied South Dakota law, which it interpreted to foreclose Waner’s claim. Id. at 857. The dissent focused on B & M Die and argued that although Waner’s invention was in the public domain, “it is undisputed that Ford’s knowledge of it was only through Waner and the sample fender liners he left with them for evaluation.” 331 F.3d at 859 (Newman, J., dissenting). The dissent asserted that “[u]nder these circumstances, the plaintiff’s right to compensation is based on a contract implied in law, not the infringement of intellectual property rights.” Id. at 858.

The American Cyanamid case was before us twice. In that case, Cyanamid breached a confidentiality agreement with University of Colorado researchers (“researchers”), copied the researchers’ pre-publication manuscript into a patent application, held the invention out as its own, and secured a patent. Univ. of Colo. Found. v. Am. Cyanamid, 342 F.3d 1298, 1302-03 (Fed. Cir. 2003). The court held that patent law did not preempt the researchers’ unjust enrichment claim and that the researchers could recover the incremental profits that Cyanamid gained by use of the improperly procured patent to exclude others. Id. at 1307. The court reasoned that the researchers’ unjust enrichment claim was not patent-like because it provided a remedy for “the breach of a contract implied in law for disclosure of [the researchers’] confidential manuscript in exchange for a promise not to disseminate the idea without the [researchers’] consent.” 342 F.3d at 1306. The court distinguished Waner, explaining that

[u]nlike the inventor in *Waner*, the Doctors here did not seek to prevent the *use of information they placed in the public domain*; rather, they seek to prevent Cyanamid from unjustly securing the ’634 patent and obtaining the *incremental profits* by copying significant portions of the Doctors’ **confidential** manuscript describing the invention. The district court’s unjust enrichment remedy was specifically limited to *incremental profits* Cyanamid wrongfully made by obtaining the ’634 patent and did not encompass total profits Cyanamid made by selling a product incorporating the Doctors’ invention.

Id. at 1307 (italicized emphases added); accord Mass. Eye and Ear Infirmary v. QLT Phototherapeutics, Inc., 399 F.3d 360, 373-75 (1st Cir. 2005) (holding that federal patent law did not preempt an unjust enrichment claim to recover an unfair incremental benefit where defendant persuaded plaintiff to combine into one patent application subject matter invented by plaintiff and defendant, the addition of inventors reduced

plaintiff's potential profits because defendant would not need to take a license, and defendant assured plaintiff that it would pay plaintiff a royalty).

In this case, Ultra-Precision makes no claim to an incremental benefit over and above the benefit the public received when Ultra-Precision published the technical information it gave to Ford when Ultra-Precision's patents issued. To the contrary, even after the district court ruled that Ultra-Precision's unjust enrichment claim was preempted as pled and gave Ultra-Precision the opportunity to amend its complaint to assert a different measure of unjust benefit than that held preempted under Bonito Boats, Ultra-Precision declined to change its pleading. Ultra-Precision never alleged that it enjoyed a confidential relationship with Ford or that its technical information enjoyed trade secret protection. Nor did it allege that the information provided to Ford by Herron and Beard conferred a benefit for services rendered or for a head start over competitors. Instead, Ultra-Precision has insisted throughout this lawsuit that it is entitled to damages based on cost savings Ford allegedly realized by "using, manufacturing, and selling vehicles equipped with [Ultra-Precision's] technology," (Compl. at 6), despite the fact that the technology that Ford used "was not patented and . . . was publicly disclosed in Plaintiff's '482 and '647 patents, such that 'one of ordinary skill in the art' could readily glean the concept from Plaintiff's patents." Nunc Pro Tunc Order at 3.

Patent law specifies that a party infringes a patent when it "makes, uses, offers to sell, or sells any patented invention, within the United States." 35 U.S.C. § 271(a) (2000). The statute goes on to provide that the patentee is entitled to recover "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.” Id. § 284. Because “concepts within the public grasp . . . provide the baseline of free competition upon which the patent system’s incentive to creative effort depends,” Bonito Boats, 489 U.S. at 156, federal patent law generally precludes a plaintiff from recovering a royalty-like award premised on defendant’s making, using, offering to sell, or selling an unpatented discovery after plaintiff makes the discovery available to the public, see 35 U.S.C. § 271(a); Bonito Boats, 489 U.S. at 156-61. Here, Ultra-Precision seeks a royalty-like award, premised on Ford’s savings from using Ultra-Precision’s technical information after Ultra-Precision made the discovery available to the public.

Ultra-Precision argues that based on Ford’s supplier cost-savings policy, Ford’s use provides a fair measure of Ford’s unjust benefit. Regardless of whether the royalty Ultra-Precision sought is “fair,” the problem Ultra-Precision faces is that it has not pled that it provided any incremental benefit to Ford over and above the benefit the general public received when Ultra-Precision published its information in its issued patents. Indeed it eschewed the district court’s invitation to amend its complaint to add a claim for such incremental benefit. Ultra-Precision’s unjust enrichment claim, as pled, renders the status of design and utilitarian “ideas” in the public domain less certain and “blurs th[e] clear federal demarcation between public and private property.” See Bonito Boats, 489 U.S. at 162. As the Supreme Court explained,

[g]iven the inherently ephemeral nature of property in ideas, and the great power such property has to cause harm to the competitive policies which underlay the federal patent laws, the demarcation of broad zones of public and private right is “the type of regulation that demands a uniform national rule.” Absent such a federal rule, each State could afford patent-like protection to particular [parties].

Id. at 163 (quoting Ray v. Atl. Richfield Co., 435 U.S. 151, 179 (1978)).

Ultra-Precision's unjust enrichment claim, as pled, also frustrates Congress's objective of "creating an incentive to develop inventions that meet the rigorous requirements of patentability." Bonito Boats, 489 U.S. at 160-63. If Ultra-Precision's unjust enrichment claim were available, a would-be inventor need not satisfy any of the rigorous standards of patentability to secure a perpetual patent-like royalty under state law based on the use of an unpatented idea.

Ultra-Precision's reliance on American Cyanamid is misplaced. American Cyanamid found no preemption for a claim for the incremental benefit conferred by an unjustly obtained patent. In this case, Ultra-Precision claims no incremental benefit. Ultra-Precision does not now contend that its inventors should be substituted for the named Ford inventors. It presently seeks only to add Herron and Beard as joint inventors alongside the Ford inventors. Under these facts, Ultra-Precision cannot claim that any non-joinder by Ford gave it the kind of incremental benefit addressed in American Cyanamid, because Ford's ability to use the invention claimed in the '312 patent is unencumbered by the existence of any co-inventors. 35 U.S.C. § 262 (2000). Nor can Ultra-Precision claim an incremental benefit to Ford based on use of information during the period of time between Herron and Beard's meetings with Ford and the time Ultra-Precision's patents issued, because Ford did not make, use or sell any modified compressors until well after Ultra-Precision's alleged solution to the NVH problem became publicly known. Finally, Ultra-Precision cannot claim an incremental benefit by Ford based on the number of hours that Ultra-Precision worked on Ford's problem, or on the value of any head-start that Ford might have received over

competitors, because Ultra-Precision has declined to amend its pleadings to assert such a claim.

Ultra-Precision's reliance on Aronson is also misplaced. In Aronson, "the contracting parties agreed expressly as to alternative obligations if no patent should issue." 440 U.S. at 262. Attempting to avoid payment of a perpetual royalty, Quick Point asserted that federal patent law preempted the contract claim. Id. The Court found no preemption and explained that

[t]he design for the keyholder was not in the public domain before Quick Point obtained its license to manufacture it. In negotiating the agreement, Mrs. Aronson disclosed the design in confidence. Had Quick Point tried to exploit the design in breach of that confidence, it would have risked legal liability. It is equally clear that the design entered the public domain as a result of the manufacture and sale of the keyholders under the contract.

....

Enforcement of these contractual obligations, freely undertaken in arm's length negotiations and with no fixed reliance on a patent or probable patent grant . . . "[does not deprive the public] of the use of valuable, if not quite patentable, invention [sic]."

The device which is the subject of this contract ceased to have any secrecy as soon as it was first marketed, yet when the contract was negotiated the inventiveness and novelty were sufficiently apparent to induce an experienced novelty manufacturer to agree to pay for the opportunity to be first in the market. Federal patent law is not a barrier to such a contract.

Id. at 263-66 (emphasis added).

Here, Ultra-Precision has not claimed breach of a confidential relationship and has withdrawn its contract claim. Herron and Beard freely disclosed information to Ford without attempting to negotiate terms for payment of any kind. And Ultra-Precision makes no claim that the discussions it had with Ford gave Ford "the opportunity to be first in the market." Id. at 266. To the contrary, Ultra-Precision seeks a patent-like remedy for Ford's conduct in making, using, and selling products embodying information

Ultra-Precision was not successful in protecting under the federal patent laws and which is free for all the world to enjoy. In the absence of an incremental benefit conferred, any attempt to obtain a patent-like royalty for the making, using, or selling of a product in the public domain under the rubric of state unjust enrichment law is preempted.

Drawing a line between contract claims and unjust enrichment claims, for preemption purposes, is not unprecedented. See Murray Hill Publ'ns, Inc. v. ABC Communications, Inc., 264 F.3d 622, 637-38 (6th Cir. 2001) (distinguishing between contract claims and unjust enrichment claims under Michigan law and holding that the unjust enrichment claim was preempted by the federal copyright laws); Wrench LLC v. Taco Bell Corp., 256 F.3d 446, 455-59 (6th Cir. 2001) (distinguishing between contract claims and unjust enrichment claims under Michigan law and holding that the implied-in-fact contract claim was not preempted by the copyright laws); cf. Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 439 (1984) (noting the “historic kinship between patent law and copyright law”). Allowing states to enforce contracts is consistent with allowing states to protect against misappropriation of trade secrets, Kewanee, 416 U.S. at 491-92, and against consumer confusion, Midwest Indus., 175 F.3d at 1364-65. “In both situations, state protection was not aimed exclusively at the promotion of invention itself, and the state restrictions on the use of unpatented ideas were limited to those necessary to promote goals outside the contemplation of the federal patent scheme.” Bonito Boats, 489 U.S. at 166. However, unjust enrichment has the potential to take aim at the federal scheme. Litigants might press courts to “scrutinize the outcomes of otherwise applicable rules [e.g., the patent laws] . . . and reject results that seem harsh or contrary to the perceived objectives of the rules.” See

Emily Sherwin, Restitution and Equity: An Analysis of the Principle of Unjust Enrichment, 79 Tex. L. Rev. 2083, 2095-96, 2101-02 (2001) (discussing one way in which a judge might implement a principle of unjust enrichment). Congress struck a balance with the Patent Act, and it is not for states to scrutinize outcomes and upset the balance. Bonito Boats, 489 U.S. at 164.

The district court's holding that federal patent law preempts Ultra-Precision's unjust enrichment claim, as pled, is affirmed.

D. Inventorship

The district court made factual findings and concluded as a matter of law that Herron and Beard are not joint inventors on the '312 patent. The district court construed claim 1 to include: (1) an arcuately extending discharge transfer cavity in the rear; (2) an approximately equal length for the arcuate transfer cavity and the axial transfer cavity (which corrects for axial offset); and (3) the distance between a cylinder chamber and its associated discharge cavity port associated with the front cylinder block equals the distance between the next cylinder chamber in the activation sequence and its associated discharge cavity port in the rear (which corrects for cylinder offset). Inventorship Opinion at 18-19. The district court noted that claim 6 also employs an arcuate discharge cavity and addresses "cylinder offset." Id.

The district court determined that Herron and Beard's inventive concept was "recognizing separation of pulses at their origin and maintaining that separation through the flow paths out the pump discharge port by equalizing the flow paths." Id. at 13. The district court found that Herron and Beard never measured the path lengths of gases using their PD tube. Id. at 10-11. The district court found that Ultra-Precision had

neither documents nor other corroborating evidence reflecting a realization of the importance of the length of the PD tube in addressing axial offset. Id. at 25. The district court concluded that Herron and Beard did not conceive of manipulating path length to address axial offset. Id. at 23. Herron and Beard admitted that they did not conceive of an arcuately extending discharge transfer cavity or conceive of eliminating cylinder offset. Id. at 13, 18-19. The district court found that there was no evidence of collaboration between Herron and Beard, and the Finn team. Id. at 23-24.

On appeal, Ultra-Precision does not contest claim construction. Ultra-Precision argues that the only novel concept in the '312 patent is the approximate equalization of the path lengths. Ultra-Precision asserts that because Herron and Beard conceived of equalizing path lengths, they are entitled to joint inventorship. Ultra-Precision argues that one of ordinary skill in the art would know to try an arcuate design once that person knew to focus on equalizing path lengths. As to the feature addressing cylinder offset, Ultra-Precision argues that this was no meaningful invention. Ultra-Precision argues that the disclosure of the '312 patent is inadequate, and as a result, the '312 patent is invalid. Ford counters that Ultra-Precision does not challenge the district court's core factual findings. Ford asserts that Ultra-Precision admitted that Herron and Beard did not conceive of several claim limitations.

The district court found that Herron and Beard admitted that they did not conceive of the arcuately extending discharge transfer cavity or recognize the cylinder offset problem. Ultra-Precision's mere assertion that Herron and Beard in fact conceived of solving the axial offset problem by equalizing path lengths is insufficient. The district court reached the opposite conclusion, and Ultra-Precision has not

explained why any of the district court's underlying factual findings is clearly erroneous. We have considered Ultra-Precision's remaining arguments and find them to be without merit. Thus, we affirm the district court's conclusion that Herron and Beard are not joint inventors.

III. CONCLUSION

Because the district court did not abuse its discretion in permitting Ford to raise the preemption defense, because the district court did not err in holding that Ultra-Precision's unjust enrichment claim was preempted as pled, because the district court's findings of fact with respect to inventorship were not clearly erroneous, and because its conclusion of law with respect to inventorship was correct, we affirm.

AFFIRMED