

United States Court of Appeals for the Federal Circuit

97-1468, 98-1113

THE UNIVERSITY OF COLORADO FOUNDATION, INC.,
THE UNIVERSITY OF COLORADO, THE REGENTS OF
THE UNIVERSITY OF COLORADO, ROBERT H. ALLEN,
and PAUL A. SELIGMAN,

Plaintiffs-Cross Appellants,

v.

AMERICAN CYANAMID COMPANY,

Defendant-Appellant,

and

LEON ELLENBOGEN,

Defendant.

Michael E. Tigar, Haddon, Morgan & Foreman, P.C, of Denver, Colorado, argued for Plaintiffs-Cross-Appellants. With him on the brief were Harold A. Haddon, Saskia A. Jordan, and Ty C. Gee. Of counsel on the brief were Robert N. Miller, of Denver, Colorado; Frederick T. Winters, and Stephanie E. Dunn, LeBoeuf, Lamb, Green & MacRae, L.L.C., of Denver, Colorado. Of counsel was Mark A. Lemley, Fish & Richardson, of Washington, DC.

Donald R. Dunner, Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P., of Washington, DC, argued for Defendant-Appellant. With him on the brief was Thomas H. Jenkins. Also on the brief were Daniel J. Thomasch, and Lauren J. Elliot, Orrick, Herrington & Sutcliffe, LLP, of New York, New York.

Appealed from: United States District Court for the District of Colorado

Senior Judge John L. Kane, Jr.

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DECIDED: November 19, 1999

Before RICH,* RADER, and BRYSON, Circuit Judges.

RADER, Circuit Judge.

The United States District Court for the District of Colorado held American Cyanamid Co. (Cyanamid) liable for fraudulent nondisclosure and unjust enrichment. *University of Colorado Found., Inc. v. American Cyanamid Co.*, 974 F. Supp. 1339, 44 USPQ2d 1231 (D. Colo. 1997) (Cyanamid III). In addition to compensatory damages, the district court awarded Drs. Robert H. Allen and Paul A. Seligman (the Doctors) \$1,000,000 in punitive damages.

The district court also declined to substitute the Doctors as the named inventors on U.S. Patent No. 4,431,634 (the '634 patent) and declined to name the University of Colorado Foundation, Inc., the University of Colorado, and the Regents of the University of Colorado (collectively, the University) as the equitable title holder of that patent. Finally, the district court refused to award damages to the University and the Doctors for infringement of Doctors' copyright in a journal article. Because the district court used an incorrect standard for determining inventorship of the '634 patent, this court vacates the liability judgments against Cyanamid and the other judgments, which rely on the inventorship determination.

I.

Materna 1.60 (Materna) is a prenatal multivitamin/mineral supplement produced and sold by Lederle Laboratories, a division of Cyanamid. In 1981, Cyanamid began selling a

reformulation of Materna. The reformulated product improved iron absorption over the previous version of the product. Cyanamid filed a patent application claiming the reformulation. The application named Dr. Leon Ellenbogen, a Cyanamid chemist, as the inventor. The '634 patent issued from this application in 1984.

Reformulated Materna contained, inter alia, 250 mg of calcium carbonate and 25 mg of magnesium oxide per dose. The '634 patent covered a broad range of formulaions, as shown by claim 1:

1. A method of enhancing the absorption of iron in multimineral, iron-supplement preparations comprising the use of limited quantities of oxides and carbonates of calcium and magnesium administered in said preparations to not more than 300 mg and 75 mg respectively per unit dosage based upon the weight of elemental calcium and magnesium in said oxide and carbonate salts.

'634 patent, col. 5, ll. 42-50.

The Doctors first learned of the '634 patent in 1993. The University and the Doctors then brought suit in federal district court against Cyanamid and Dr. Ellenbogen. That lawsuit alleged (1) that the Doctors (who were medical researchers at the University of Colorado Health Sciences Center) invented the reformulation of Materna covered by the '634 patent claims and communicated the invention to Dr. Ellenbogen, (2) that Dr. Ellenbogen intentionally omitted the Doctors as co-inventors in the patent application, and (3) that Cyanamid intentionally hid the patent from the Doctors. The University sought damages for fraudulent nondisclosure, patent infringement, and copyright infringement. The University and the Doctors sought restitution and disgorgement of Cyanamid's profits from sales of reformulated Materna. The University also sought equitable title to the '634 patent and sought to have the Doctors named as the inventors in the '634 patent under 35 U.S.C. § 256 (1994).

In response, Cyanamid asserted that Dr. Ellenbogen hired the Doctors to perform research that convinced Cyanamid to reformulate Materna. According to Cyanamid, the Doctors transmitted the results of their research to Cyanamid with the intention that Cyanamid would reformulate Materna and thereby profit. Cyanamid further asserted that Dr. Ellenbogen was the true inventor. Consequently, Cyanamid argued that it had no duty to notify the Doctors of the patent and denied any liability to the University. As affirmative defenses, Cyanamid asserted that the doctrines of preemption by federal patent law, laches, and limitations under relevant statutes barred the University's claims.

The parties filed cross-motions for summary judgment. The district court granted summary judgment to Cyanamid on the § 256 claim refusing to substitute the Doctors as the named inventors on the '634 patent. *University of Colorado Found., Inc. v. American Cyanamid Co.*, 880 F. Supp. 1387, 1399, 35 USPQ2d 1737, 1746 (D. Colo. 1995) (Cyanamid I). The district court also granted summary judgment to Cyanamid, denying the University's claims of patent infringement and ownership of equitable title to the '634 patent. See *University of Colorado Found., Inc. v. American Cyanamid Co.*, 902 F. Supp. 221, 222-23, 37 USPQ2d 1406, 1407-08 (D. Colo. 1995) (Cyanamid II). The district court also granted summary judgment to the University on copyright infringement. Specifically, the district court found that four bar graphs and a table in the Doctors' published article were copyrightable subject matter and copied by Cyanamid into the patent application. See Cyanamid I 880 F. Supp. at 1400-02.

Following a bench trial, the district court found that the Doctors invented the Materna reformulation and that Dr. Ellenbogen was not an inventor of that composition. To determine

inventorship, the district court applied state common law, rather than federal patent law. Based on its inventorship finding, the court held Cyanamid liable to the University for both fraudulent nondisclosure and unjust enrichment. See *Cyanamid III*, 974 F. Supp. at 1339.

The district court assessed damages equivalent to a royalty on net sales of reformulated Materna "from the time of the fraud in 1981 through the life of the Patent." Thus, the district court arrived at total damages of \$44,396,159. On the fraudulent nondisclosure claim, the court found Cyanamid liable for punitive damages of \$500,000 to each of the Doctors. On the copyright claim, the court concluded that Cyanamid did not owe damages to the University. Finally, the court rejected all of Cyanamid's affirmative defenses. See *id.*

Cyanamid appeals the liability judgments on the fraudulent nondisclosure and unjust enrichment claims, the associated monetary awards, and the court's rejection of its statute of limitation and laches defenses. The University appeals the court's denial of its correction of inventorship and equitable patent title claims as well as the denial of damages for copyright infringement.

II.

Summary judgment requires an absence of genuine issues of material fact and a showing that the moving party deserves judgment as a matter of law. See Fed. R. Civ. P. 56(c). This court reviews a grant of summary judgment *de novo*, with all justifiable factual inferences drawn in favor of the party opposing the motion. See *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986). This court reviews a bench trial *de novo* for errors of law, and under the clearly erroneous standard for findings of fact. See *Gjerlov v. Schutler Labs., Inc.*, 131 F.3d 1016, 1019, 44 USPQ2d 1881, 1885 (Fed. Cir. 1997).

A.

Two types of preemption are asserted in this case. First, this court must determine whether federal patent law preempts the University's claims under state law of fraudulent nondisclosure and unjust enrichment. Second, this court must determine whether federal patent law preempts the district court's use of a state common law standard of inventorship to find that the Doctors were the inventors of the Materna reformulation. This court applies its own law to determine whether federal patent law preempts state law. See *Midwest Indus., Inc. v. Karavan Trailers, Inc.*, 175 F.3d 1356, 1360, 50 USPQ2d 1672, 1676 (Fed. Cir. 1999) (*en banc*).

"Under the Supremacy Clause, it has been settled that state law that conflicts with federal law is without effect." *Hunter Douglas, Inc. v. Harmonic Design, Inc.*, 153 F.3d 1318, 1331, 47 USPQ2d 1769, 1778 (Fed. Cir. 1998) (quotations and citations omitted). Field preemption is found when state law regulates conduct in a field that Congress intends the federal government to occupy exclusively. Conflict preemption is found when the application of state law produces a conflict with the requirements, protections, prohibitions, or policies of federal law. See *id.* at 1332.

A Colorado fraudulent nondisclosure claim requires:

- (1) concealment of a material existing fact that in equity and good conscience should be disclosed;
- (2) knowledge on the part of the party against whom the claim is asserted that such a fact is being concealed;
- (3) ignorance of that fact on the part of the one from whom the fact is concealed;
- (4) the intention that the concealment be acted upon; and
- (5) action on the concealment resulting in damages.

Cyanamid III, 974 F. Supp. at 1353. A Colorado unjust enrichment claim requires:

(1) at plaintiff's expense (2) defendant received a benefit (3) under circumstances that would make it unjust for defendant to retain the benefit without paying.

DCB Constr. Co. v. Central City Dev. Co., 965 P.2d 115, 119-20 (Colo. 1998). The fraudulent nondisclosure and unjust enrichment causes of action cover a broad range of conduct that does not bear on federal patent policies, and those causes of action are therefore not preempted by federal patent law. Nor are the state law causes of action preempted as applied in this case, because the two state law causes of action do not impose requirements that are inconsistent with federal law, nor do they "stand[] as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress." *Hunter Douglas*, 153 F.3d at 1332 (quotation and citation omitted).

The University alleged that Cyanamid acted in bad faith in the marketplace by withholding from the Doctors knowledge of the patent application for the Materna reformulation. Similarly, the University alleged that Dr. Ellenbogen and Cyanamid knew that the Doctors invented the Materna reformulation and intentionally omitted them from the application that matured into the '634 patent - a charge that Cyanamid perpetrated fraud on the Patent and Trademark Office (PTO) to obtain the patent.

Significantly, the Doctors made no attempt to patent the Materna reformulation, which they purport to have invented. Although the Doctors had no patent rights to reformulated Materna at the time of the suit, their state law claims are not simply an attempt to enforce property rights. Instead, the fraudulent nondisclosure claim springs from Cyanamid's alleged duty to inform the Doctors of the patent application. Similarly, the unjust enrichment claim springs not from an attempt to enforce intellectual property rights, but instead from Cyanamid's alleged wrongful use of the Doctors' research results. Therefore, as stated earlier, federal patent law does not preempt these state law claims.

Nonetheless, the University's fraudulent nondisclosure and unjust enrichment claims depend on the Doctors' status as inventors. As the district court correctly noted, "[w]hether Cyanamid had a duty to disclose its intention to and filing of the Patent application depends on who was the inventor of the reformulated version of Materna patented." *Cyanamid I*, 880 F. Supp. at 1395. In determining that the Doctors invented reformulated Materna, however, the district court applied state common law. See *Cyanamid III*, 974 F. Supp. at 1353 n.2 ("Plaintiffs are not required to establish inventorship or ownership under the patent statute to state a common law claim for fraud or unjust enrichment. . . . [A] higher level of inventorship or ownership is required to state a claim for patent infringement."). Thus, this court must determine whether federal patent law preempts states from dictating standards for inventorship.

Field preemption describes exclusive regulation of a legal subject by federal law. See *English v. General Elec. Co.*, 496 U.S. 72, 78 (1990). To preempt a field, federal law must evince "a scheme of federal regulation so pervasive" that no room remains for a state to supplement. *Id.* at 79 Alternatively, federal law preempts a field by addressing a "federal interest . . . so dominant that the federal system will be assumed to preclude enforcement of state laws on the same subject." *Id.*

A primary purpose of patent law is to reward invention. See *Kewanee Oil. Co. v. Bicon Corp.*, 416 U.S. 470, 480 (1974). The law of inventorship, which has heretofore developed solely under federal law, supports this purpose by identifying the actual inventors of an invention eligible for patent protection. With its advent in Article 1 of the Constitution, patent law has developed

under federal law to achieve the objective of national uniformity. See *Florida Prepaid Postsecondary Educ. Expense Bd. v. College Savings Bank*, --- U.S. ---, 51 USPQ2d 1081, 1088 (1999) ("The need for uniformity in the construction of patent law is undoubtedly important."). An independent inventorship standard under state law would likely have different requirements and give rise to different remedies than federal patent law. A different state inventorship standard might grant property rights to an individual who would not qualify as an inventor under federal patent law, or might grant greater relief to inventors than is afforded by federal patent law. Either situation might frustrate the dual federal objectives of rewarding inventors and supplying uniform national patent law standards.

The federal Patent Act leaves no room for states to supplement the national standard for inventorship. Title 35 contains explicit and detailed standards for inventorship. See, e.g., 35 U.S.C. §§ 101-03, 116-20, 254-56, 261-62 (1994). Moreover, federal law has provided this court with jurisdiction to enforce these comprehensive provisions to provide a uniform national standard for inventorship. See *In re Snap-On Tools Corp.*, 720 F.2d 654, 655, 220 USPQ 8, 9 (Fed. Cir. 1983). Therefore, the field of federal patent law preempts any state law that purports to define rights based on inventorship. Consequently, this court vacates the district court's conclusion that the Doctors were the inventors of reformulated Materna and that Dr. Ellenbogen was not the inventor. Upon remand, the court must apply federal patent law principles to determine whether the Doctors and/or Dr. Ellenbogen were inventors of the technology of the '634 patent.

B.

We set forth above the elements of a fraudulent nondisclosure claim in Colorado. The district court concluded that Cyanamid was liable to the University for fraudulent nondisclosure. The district court found that the Doctors were the inventors of the Materna reformulation. Thus, Cyanamid had an equitable duty to disclose the patent application to the true inventors, the Doctors. Further, the district court found that Cyanamid knew, and the Doctors were unaware, of the concealment of the patent filing. The district court found that Cyanamid concealed the application to induce the Doctors to continue to work with Dr. Ellenbogen. Because of this concealment, the district court found, the Doctors did not either seek recognition as inventors on the application or prevent the issuance of the patent with Dr. Ellenbogen named as the inventor. See *Cyanamid III*, 974 F. Supp. at 1353.

The district court's chain of reasoning hinges on the finding that the Doctors were inventors of the Materna reformulation. Because the district court used an incorrect standard to determine inventorship, this court vacates that finding. Therefore, without a correct finding of inventorship, this court must also vacate the district court's finding that Cyanamid had a duty to disclose the filing of the application to the Doctors. Finally, this court vacates the district court's conclusion that Cyanamid was liable to the University for fraudulent nondisclosure for the same reason.

These actions necessarily vacate as well the associated damages, punitive damages, and awards. However, this court notes the following errors in the district court's damages determination. The district court found that Cyanamid's fraudulent nondisclosure "deprived [the University] of financial opportunities and prestige [it] would have enjoyed had their doctors been credited with the invention, and harmed Drs. Allen and Seligman both personally and professionally." *Id.* However, the record shows that the doctors intended to, and did, freely share their research results to allow Cyanamid to make and sell an improved Materna formulation. Neither the doctors nor the University sought to obtain a patent covering the Materna reformulation, and the

University has never been in the business of manufacturing or marketing prenatal vitamins. Finally, Cyanamid did not attempt to enforce the '634 patent against the University. Therefore, even assuming that the Doctors were the sole inventors of the Materna reformulation (a fact to be determined upon remand), the only financial opportunity that the University could have lost was the payment for an assignment of ownership rights in the '634 patent or a license from the University to sell the reformulated product at the time the patent issued.

If the court finds that the Doctors jointly invented the reformulated product with Dr. Ellenbogen, the financial opportunity that the University could have lost was the payment that Cyanamid would have made to secure the Doctors' cooperation in filing the required documents with the PTO, such as oaths and declarations. Because federal patent law allows joint owners to practice a patented technology without accounting to the other co-owners, Cyanamid would not have needed to acquire ownership of the patent or licenses thereunder. See 35 U.S.C. § 262 (1994). However, in that case, the University would have been within its rights to license others under the '634 patent or to produce and sell products thereunder. See *id.* Thus, the district court could find that Cyanamid would have also paid the University for either an assignment of the University's ownership interest in the '634 patent or an exclusive license thereunder. Either arrangement would have assured Cyanamid the exclusivity, which they enjoyed during the life of the '634 patent.

By declining to seek a patent in their own right, the Doctors and the University chose to forego the opportunity to gain prestige associated with the inventorship of such a patent. Instead they presumably were satisfied with the prestige associated with publication of a journal article detailing their research. Furthermore, the University submitted no evidence showing that the Doctors suffered any loss of prestige as a result of Dr. Ellenbogen being named as the inventor in the '634 patent. Therefore, the University did not prove that by naming Dr. Ellenbogen as the inventor in the '634 patent, Cyanamid deprived the Doctors or the University of any prestige. Consequently, even if the Doctors were inventors of reformulated Materna under federal patent law, Cyanamid may be held liable pursuant to the fraudulent nondisclosure claim, but only for the payment that Cyanamid would have made to secure the Doctors' cooperation in filing the required documents with the PTO, an assignment of ownership rights and/or an exclusive license from the University.

In setting the amount of damages (if any) on remand, the district court should consider the usual and customary arrangements at the time of the filing of the patent application. In particular the court should consider that university licensing barely existed as of the filing date of the '634 patent in 1981. In fact, the Bayh-Dole Act, which set the stage for modern university licensing went into effect less than six months before the '634 patent's filing date. See 35 U.S.C. § 200 (1994).

The district court also held Cyanamid liable to the University for unjust enrichment. Cyanamid does not argue that the district court erred in any findings under its unjust enrichment analysis. Therefore, this court does not review those findings. This court notes, however, that a defendant who uses a benefit provided by the plaintiff in an unauthorized and unfair manner may be liable in Colorado for unjust enrichment. See, e.g., *Cablevision of Breckenridge, Inc. v. Tannhauser Condominium Ass'n*, 649 P.2d 1093 (Colo. 1982) (en banc) (holding defendant liable for unauthorized use of cable signal, i.e., installing equipment to provide cable service to unsubscribed condominium units). However, as noted before, federal patent law preempts the district court's common law inventorship standard. Like the fraudulent nondisclosure claim,

unjust enrichment hinges on the finding that the Doctors invented reformulated Materna. Thus, this court vacates the unjust enrichment liability as well.

C.

The district court granted summary judgment in favor of Cyanamid on the University's request to have the Doctors substituted as the named inventors of the '634 patent under 35 U.S.C. § 256 (1994). The district court concluded that correction of inventorship under § 256 "is not applicable here where Plaintiffs seek correction based on Cyanamid's alleged fraud and deception." *Cyanamid I*, 880 F. Supp. at 1399. However, after the district court's decision in *Cyanamid I*, this court held:

Section 256 allows deletion of a misjoined inventor whether that error occurred by deception or by innocent mistake. As well, the section allows addition of an unnamed actual inventor, but this error of nonjoinder cannot betray any deceptive intent by that inventor. In other words, the statute allows correction in all misjoinder cases featuring an error and in those nonjoinder cases where the unnamed inventor is free of deceptive intent.

Stark v. Advanced Magnetics, Inc., 119 F.3d 1551, 1555, 43 USPQ2d 1321, 1324 (Fed. Cir. 1997); see also *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1350, 47 USPQ2d 1657, 1662 (Fed. Cir. 1998) ("[Section 256] is a savings provision. If a patentee demonstrates that inventorship can be corrected as provided for in section 256, a district court must order correction of the patent, thus saving it from being rendered invalid."). Thus, the district court's premise -- that the actual inventors could not be substituted for a fraudulently-named inventor in a patent without thereby invalidating the patent -- was incorrect. This court therefore vacates the district court's grant of summary judgment in favor of Cyanamid on the correction of inventorship issue. Upon remand, the district court will have the opportunity to reconsider the University's section 256 claim.

D.

The district court granted summary judgment in favor of Cyanamid on the University's equitable title argument. The court reasoned that the patent would be invalid if the University was the equitable owner of the '634 patent. This conclusion sprang from the district court's belief that the fraudulent deletion from the patent document of the true inventors, i.e., the Doctors, would render the patent invalid. Because no party enjoys any equitable rights in an invalid patent, the district court denied this claim. See *Cyanamid II*, 902 F. Supp. at 222-23 (citing *Kennedy v. Hazelton*, 128 U.S. 667 (1888)).

To the contrary, substitution of the Doctors as named inventors in the '634 patent under 35 U.S.C. § 256, if warranted, would not invalidate the patent and would establish the University's equitable title to it. As noted above, correction of nonjoinder of entitled inventors does not invalidate a patent. Therefore, this court vacates the district court's summary judgment on the University's equitable title claim. Upon remand, the court will have the opportunity to consider the merits of this claim.

E.

The district court found that Cyanamid copied Figures 1-4 and Table 1 of the Doctors' journal article into the patent application. Because these depictions of data in the Figures and Table were protectable expressions under the copyright statute, the district court determined that Cyanamid infringed the Doctors' copyright in the article. See *Cyanamid I*, 880 F. Supp. at 1401-02. However, the district court concluded that the University did not prove any damages from the copyright infringement. See *Cyanamid III*, 974 F. Supp. at 1356-57 ("Plaintiffs are

entitled only to those damages and profits attributable to copying the Figures and Table into the patent application, not the reformulation depicted by them. Plaintiffs made no effort at trial to distinguish between damages attributable to the infringement and those attributable to the Patent itself.").

The University argues that its proof of Cyanamid's gross revenues from sales of reformulated Materna shifted the burden of proof to Cyanamid under 17 U.S.C. § 504(b) (1994) to prove deductible expenses and to prove those elements of its profits that were attributable to factors other than copyright infringement.¹ The University's argument presumes that the sales of reformulated Materna were due to Cyanamid's copyright infringement. The University had the burden to show this connection. See 4 Melville B. Nimmer and David Nimmer, Nimmer on Copyright § 14.03[A] (1999) (noting that plaintiff's claims for indirect profits rarely succeed). The district court found that the University did not meet this burden. This court detects no clear error in this finding. This court therefore affirms the district court's decision.

Cyanamid's Affirmative Defenses

Cyanamid appeals the district court's rejection of its statutes of limitations and laches defenses. For the reasons stated in the district court's opinion, Cyanamid's arguments fail.

CONCLUSION

This court vacates the district court's decision that the Doctors, and not Dr. Ellenbogen, invented the reformulation of Materna, and consequently vacates the court's fraudulent nondisclosure and unjust enrichment decisions. Because these liability decisions cannot stand, the damages awards are necessarily also vacated. This court also vacates the district court's summary judgment in favor of Cyanamid on the University's correction of inventorship and equitable patent title claims. Finally, this court affirms the district court's copyright damages and affirmative defense decisions.

COSTS

Each party shall bear its own costs.

AFFIRMED IN PART, VACATED IN PART, AND REMANDED

* Circuit Judge Rich heard oral argument in this case, but died on June 9, 1999. This case was decided by the remaining judges in accordance with Fed. Cir. Rule 47.11.

1 17 U.S.C. § 504(b) (1994) reads as follows:

The copyright owner is entitled to recover the actual damages suffered by him or her as a result of the infringement, and any profits of the infringer that are attributable to the infringement and are not taken into account in computing the actual damages. In establishing the infringer's profits, the copyright owner is required to present proof only of the infringer's gross revenue, and the infringer is required to prove his or her deductible expenses and the elements of profit attributable to factors other than the copyrighted work.