

# United States Court of Appeals for the Federal Circuit

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**SIEMENS MEDICAL SOLUTIONS USA, INC.,**  
*Plaintiff-Cross Appellant,*

v.

**SAINT-GOBAIN CERAMICS & PLASTICS, INC.,**  
*Defendant-Appellant.*

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2010-1145, -1177

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Appeals from the United States District Court for the District of Delaware in case no. 07-CV-0190, Judge Sue L. Robinson.

## ON PETITION FOR REHEARING EN BANC

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CARTER G. PHILLIPS, Sidley Austin LLP, of Washington, DC, filed a petition for rehearing en banc for defendant-appellant. With him on the petition were VIRGINIA A. SEITZ and JAMES C. OWENS. Of counsel on the petition was ARTHUR I. NEUSTADT, Oblon Spivak, McClelland, Maier & Neustadt, L.L.P., of Alexandria, Virginia.

GREGG F. LOCASCIO, Kirkland & Ellis, LLP, of Washington, DC, filed a response to the petition for plaintiff-cross appellant. With him on the response were JOHN C.

O'QUINN, WILLIAM H. BURGESS, MICHAEL A. PEARSON, JR.;  
and ROBERT G. KRUPKA, of Los Angeles, California.

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Before RADER, *Chief Judge*, NEWMAN, LOURIE, BRYSON,  
GAJARSA, LINN, DYK, PROST, MOORE, O'MALLEY, and  
REYNA, *Circuit Judges*.

PER CURIAM.

LOURIE, *Circuit Judge*, with whom RADER, *Chief Judge*, NEWMAN, LINN, MOORE, and O'MALLEY, *Circuit Judges*, join, concurs in the denial of the petition for rehearing en banc.

RADER, *Chief Judge*, with whom NEWMAN, LOURIE, and LINN, *Circuit Judges*, join, concurs in the denial of the petition for rehearing en banc.

NEWMAN, *Circuit Judge*, with whom RADER, *Chief Judge*, and LOURIE, *Circuit Judge*, join, concurs in the denial of the petition for rehearing en banc.

DYK, *Circuit Judge*, with whom GAJARSA and PROST, *Circuit Judges*, join, dissents from the denial of the petition for rehearing en banc.

### ORDER

A petition for rehearing en banc was filed by Defendant-Appellant, and a response thereto was invited by the court and filed by Plaintiff-Cross Appellant. The petition for rehearing was referred to the panel that heard the appeals, and thereafter the petition for rehearing en banc and response were referred to the circuit judges who are authorized to request a poll of whether to rehear the appeals en banc. A poll was requested and failed.

Upon consideration thereof,

## IT IS ORDERED THAT:

- (1) The petition of Defendant-Appellant for panel rehearing is denied.
- (2) The petition of Defendant-Appellant for rehearing en banc is denied.
- (3) The mandate of the court will issue on June 14, 2011.

FOR THE COURT

June 7, 2011  
Date

/s/ Jan Horbaly  
Jan Horbaly  
Clerk

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LOURIE, *Circuit Judge*, with whom RADER, *Chief Judge*, NEWMAN, LINN, MOORE, and O'MALLEY, *Circuit Judges*, join, concurring in the denial of the petition for rehearing en banc.

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I concur in the court's denial of the petition for rehearing en banc. Respectfully, this case is not, as the dissent states, about whether a patent's claim scope can encompass under the doctrine of equivalents a new and separately patented invention. It is about whether the burden of proving infringement, when the accused subject matter is separately patented, should be raised to the higher clear and convincing standard rather than the well-established preponderance of the evidence standard.

That is the issue argued to this court, and that is the issue decided by this court. *Siemens Med. Solutions USA, Inc. v. Saint-Gobain Ceramics & Plastics, Inc.*, 637 F.3d 1269, 1283 (Fed. Cir. 2011).

The dissent seeks to challenge well-established law, *viz.*, that a patent can cover, or dominate, separately patented subject matter. As we have long recognized, however, each patent grants only a right to exclude:

A patent is not the grant of a right to make or use or sell. It does not, directly or indirectly, imply any such right. It grants only the right to exclude others. The supposition that a right to make is created by the patent grant is obviously inconsistent with the established distinctions between generic and specific patents, and with the well-known fact that a very considerable portion of the patents granted are in a field covered by a former relatively generic or basic patent, are tributary to such earlier patent, and cannot be practiced unless by license thereunder.

*Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1580-81 (Fed. Cir. 1984) (quoting *Herman v. Youngstown Car Mfg. Co.*, 191 F. 579, 584-85 (6th Cir. 1911)); *see also* 35 U.S.C. § 154(a)(1) (2006); *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30, 43 (1929).

In this case, the district court explicitly instructed the jury in accordance with this basic tenet, *Siemens*, 637 F.3d at 1276-77, and the jury found by a preponderance of the evidence that Siemens' asserted patent covering PET scanners containing LSO crystals was infringed under the doctrine of equivalents by PET scanners containing Saint-Gobain's 10% Y LYSO crystals. Significantly, the district court's instructions expressly permitted the jury to consider in its infringement analysis the fact that Saint-

Gobain obtained a license to a separate, later-issued patent covering, *inter alia*, 10% Y LYSO. *Id.* The jury was aware of the later-issued patent, *id.*, as well as its presumption of validity, *id.* at 1284.

Thus, under the proper burden of proof, and in view of the separate patent licensed by Saint-Gobain, the jury found that Siemens' patent, in effect a dominant patent, was infringed by the accused products. Contrary to the dissent's assertion that our decision "will deter innovation and hamper legitimate competition," this case exemplifies the patent system working as it should to enforce a patentee's right to exclude—the only right embodied in the grant of a patent.

Saint-Gobain sensibly acquiesced in the fundamental principle that a patent does not grant a right to practice free from infringement liability. Instead, this case is about Saint-Gobain's disagreement with a jury instruction that infringement under the doctrine of equivalents may be proved by a preponderance of the evidence when the accused product is covered by a later patent. *Id.* at 1278. Whatever the merits of the significantly broader issue that the dissent may wish to confront, this case does not present that issue.

The court was therefore correct in declining to take this case en banc.

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RADER, *Chief Judge*, with whom NEWMAN, LOURIE, and LINN, *Circuit Judges*, join, concurring in the denial of the petition for rehearing en banc.

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The jury properly reached, and the district judge properly upheld, the doctrine of equivalents verdict in this case. A major, if not the primary, purpose of the doctrine of equivalents is to protect inventions from infringement by after-arising technology.

At its heart, the patent system incentivizes improvements to patented technology. Indeed the Patent Act itself provides patent protection to inventions and discoveries, then specifically extends that protection to “improvement[s] thereof.” 35 U.S.C. § 101. Inventing an

improvement to patented inventions, however, does not entitle such an inventor to infringe the underlying patented technology. The doctrine of equivalents ensures that both the basic inventor and the inventive improver obtain their deserved protection.

Without the doctrine of equivalents, improving technology could deprive basic inventors of their rights under the patent system. This court examined those principles in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*:

A primary justification for the doctrine of equivalents is to accommodate after-arising technology. Without a doctrine of equivalents, any claim drafted in current technological terms could be easily circumvented after the advent of an advance in technology. A claim using the terms “anode” and “cathode” from tube technology would lack the “collectors” and “emitters” of transistor technology that emerged in 1948. Thus, without a doctrine of equivalents, infringers in 1949 would have unfettered license to appropriate all patented technology using the out-dated terms “cathode” and “anode”. Fortunately, the doctrine of equivalents accommodates that unforeseeable dilemma for claim drafters. Indeed, in *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 37, 117 S.Ct. 1040, 137 L.Ed.2d 146 (1997), the Supreme Court acknowledged the doctrine's role in accommodating after-arising technology.

234 F.3d 558, 619 (Fed. Cir. 2000) (en banc) (Rader, J., concurring).

Of course, if an equivalent was foreseeable as available technology at the time of filing, the applicant has an obligation to claim that technology. If the applicant discloses, but does not claim, foreseeable technology, that subject matter enters the public domain. *Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co., Inc.*, 285 F.3d 1046 (Fed. Cir. 2002) (en banc) (per curiam). “[A]n equivalent is foreseeable if the equivalent was generally known to those skilled in the art at the time of amendment as available in the field of the invention as defined by the pre-amendment claim scope.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 493 F.3d 1368, 1380 (Fed. Cir. 2007); *Sage Prods. Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1424 (Fed. Cir. 1997); *Johnson*, 285 F.3d at 1056-59. In other words, “[t]he applicant is charged with surrender of foreseeable equivalents known before the amendment, not equivalents known **after** the amendment.” *Festo*, 493 F.3d at 1380 (emphasis added). Thus, the doctrine of equivalents allows patent owners to cover after-arising technology.

In sum, this court in *Siemens Med. Solutions USA, Inc. v. Saint-Gobain Ceramics & Plastics, Inc.*, 637 F.3d 1269 (Fed. Cir. 2011), correctly applied the doctrine of equivalents to after-arising technology and correctly maintained the proper evidentiary burden for the infringement inquiry.

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NEWMAN, *Circuit Judge*, with whom RADER, *Chief Judge*, and LOURIE, *Circuit Judges*, join, concurring in denial of the petition for rehearing en banc.

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I join Chief Judge Rader in his reminder, lest we forget, of the incentive purposes of the patent grant; and I join Judge Lourie in pointing out that, contrary to the dissenters' theory, "dominating" patents can dominate infringing equivalents. I write further in response to the dissenters' argument that this court should discard United States precedent and readjust the balance between the inventor and copier. Such a shift, in the hope of reducing the price of existing products through enhanced competition, diminishes the economic incentive to create

new products. This realignment of the economics of innovation should not be done casually.

The Supreme Court has observed that “the doctrine of equivalents renders the scope of patents less certain,” and that “this uncertainty [is] the price of ensuring the appropriate incentives for innovation.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 732 (2002). It is evident that:

A national economic policy that weighs on the side of fostering development and investment in new technology will have a different approach to the law of equivalency than an economic policy aimed at facilitating competition by minor change in existing products. Any tightening or loosening of access to the doctrine of equivalents shifts the balance between inventor and copier.

*Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 344 F.3d 1359, 1379 (Fed. Cir. 2003) (en banc) (Newman, J., concurring in part, dissenting in part).

The dissenters’ position is that if any modification or substitution is made in any part of a patented product or process, and that modification or substitution is separately patented, this frees the entire product or process from the reach of the doctrine of equivalents, whatever the evidence of equivalency. According to the dissenters, it is irrelevant whether the substitution performs substantially the same function in substantially the same way to achieve the same result.

The Siemens patent is for positron emission tomography scanners that use cerium-doped lutetium oxyorthosilicate scintillator crystals. The product charged with infringement replaces 10% of the lutetium with yttrium,

an element acknowledged to have similar properties. After an eight-day trial, the jury found that the cerium-doped oxyorthosilicate crystals with 90% lutetium and 10% yttrium were equivalent to the cerium-doped oxyorthosilicate crystals with 100% lutetium, on the jury charge that:

One way to decide whether any difference between the 10% Y LYSO and LSO crystals are not substantial is to consider whether, as of the time of the alleged infringement, the 10% Y LYSO crystal performed substantially the same function, in substantially the same way, to achieve substantially the same result as the LSO crystal in the asserted claim.

J.A. 450. It is not disputed that there is substantial evidence to support the jury's finding of equivalency. Instead, the dissenters propose that no infringement can be found as a matter of law, because the crystals with 10% yttrium were the subject of a separate patent.

The dissenters propose that the separate patenting of an equivalent automatically liberates the subject matter from infringement, whatever the facts of the substitution. The consequences for the innovation incentive are not addressed. The patent law seeks "a careful balance between the need to promote innovation and the recognition that imitation and refinement through imitation are both necessary to invention itself and the very lifeblood of a competitive economy." *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 146 (1989). The doctrine of equivalents is part of that balance, and any change in its application is a matter of national economic policy.

Precedent recognizes that an equivalent substitution may or may not be an obvious variant. The court in this case observed that the principles of obviousness and of equivalency “require different analytical frameworks.” *Siemens Med. Solutions USA, Inc. v. Saint-Gobain Ceramics & Plastics, Inc.*, 637 F.3d 1269, 1282 (Fed. Cir. 2011). In *Warner-Jenkinson Co. Inc. v. Hilton-Davis Chemical Co.*, the Supreme Court explained that “Equivalence, in patent law, is not the prisoner of a formula and is not an absolute to be considered in a vacuum.” 520 U.S. 17, 24-25 (1997) (quoting *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 609 (1950)). In *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30 (1929) the Court held that infringement by an equivalent was not precluded by the presence of a separate patent on the equivalent. The fact of equivalency is found on the evidence in the particular case, for “it is well established that separate patentability does not avoid equivalency as a matter of law.” *Fiskars, Inc. v. Hunt Mfg. Co.*, 221 F.3d 1318, 1324 (Fed. Cir. 2000); see also *Atlas Powder Co. v. E.I. du Pont De Nemours & Co.*, 750 F.2d 1569, 1580 (Fed. Cir. 1984) (“Equivalence does not require that the claimed invention and accused product have identical results; the results can be substantially the same and the accused product can be an improvement.”).

The dissenters’ position is not the law. Nor has such a change of law been proposed in the present “patent reform” era. “The strength of entrepreneurship in the U.S. continues to rest in the ability to maintain a culture and infrastructure that is best suited to its development.” Sang M. Lee & Suzanne J. Peterson, *Culture, Entrepreneurial Orientation, and Global Competitiveness*, 35 J. World Bus. 401, 411 (2000). A policy change that shifts the balance between the copier and the originator is a matter of economic consequence.

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DYK, *Circuit Judge*, with whom GAJARSA and PROST, *Circuit Judges*, join, dissenting from the denial of the petition for rehearing en banc.

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I respectfully dissent from the court's denial of rehearing en banc. As pointed out in Judge Prost's panel dissent, this case presents an important question: whether, under the doctrine of equivalents, a patent claim's scope can encompass a new and separately patented (or patentable) invention.

I

Siemens Medical Solutions USA, Inc. ("Siemens") owns U.S. Patent No. 4,958,080 ("080 patent"), which

claims positron emission tomography (“PET”) scanners comprising cerium-doped lutetium oxyorthosilicate (“LSO”) scintillator crystals. *See Siemens Med. Solutions USA, Inc. v. Saint-Gobain Ceramics & Plastics, Inc.*, 637 F.3d 1269, 1275 (Fed. Cir. 2011). Siemens brought suit against Saint-Gobain Ceramics & Plastics, Inc. (“Saint-Gobain”) for patent infringement, claiming induced and contributory infringement based on Saint-Gobain’s sale of scintillator crystals to its customers who use the crystals in PET scanners. *Id.* at 1276. The question was whether the customers’ PET scanners directly infringed the ’080 patent. The customers’ PET scanners did not fall within the literal terms of the ’080 patent because Saint-Gobain’s crystals were composed of cerium-doped lutetium-yttrium orthosilicate (“LYSO”), which differs chemically from the LSO crystals in the ’080 patent. *Id.* Siemens asserted infringement under the doctrine of equivalents, alleging that the 10% Y LYSO crystals in the accused product were equivalent to the ’080 patent’s LSO crystals. Both the alleged equivalent crystals and a PET scanner containing those crystals, however, were separately claimed in U.S. Patent No. 6,624,420 (“’420 patent”), a subsequent patent licensed to Saint-Gobain. *See* ’420 patent, col.7 ll.39–43, col.7 ll.47–col.8 ll.2.

Saint-Gobain requested jury instructions aimed at preventing Siemens from capturing, under the doctrine of equivalents, the new invention covered by the ’420 patent. *Siemens*, 637 F.3d at 1278, 1283. The question was whether Siemens was required to establish that the alleged equivalent crystals and PET scanners were merely obvious variants of the ’080 patent’s crystal and PET scanner. The requested jury instructions were refused, and the jury found infringement of the ’080 patent under the doctrine of equivalents. A divided panel of this court affirmed. *Id.* at 1283–84. The panel major-

ity explicitly rejected the premise that equivalents must be confined to obvious alternatives. While the majority recognized that finding an identity between insubstantiality and nonobviousness is “not illogical,” *id.* at 1279, it ultimately concluded that, “with regard to Saint-Gobain’s contention that equivalence is tantamount to obviousness, we disagree,” *id.* at 1281.

## II

The theory of the doctrine of equivalents is that an inventor should receive protection for the full scope of his invention, even if the claim language does not literally cover it. The doctrine of equivalents is not designed to enable the patent holder to secure the rights to a new invention that the inventor did not create. In other words, the doctrine of equivalents allows the patent holder to secure only the rights to products or processes that reflect minor differences from the patent’s claims. To prove that an element of an accused product is an equivalent for the purposes of infringement, the patentee must prove that the feature is insubstantially different. See *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 39–40 (1997); *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 610 (1950). In my view, a product cannot be insubstantially different if it is nonobvious and separately patentable.

As this court stated in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 493 F.3d 1368 (Fed. Cir. 2007), “[t]he theory of the doctrine of equivalents is that an applicant through the doctrine of equivalents should only be able to protect the scope of his invention, not to expand the protectable scope of the claimed invention to cover a new and unclaimed invention.” *Id.* at 1379 (internal citation omitted). A similar view was expressed by Judge Nies in *Roton*, who noted that “[a] substitution in a pat-

ented invention cannot be both nonobvious and insubstantial.” *Roton Barrier, Inc. v. Stanley Works*, 79 F.3d 1112, 1128 (Fed. Cir. 1996) (Nies, J., additional views). Though we did “not directly decide[ ]” in *Festo* “whether a device—novel and separately patentable because of the incorporation of an equivalent feature—may be captured by the doctrine of equivalents,” 493 F.3d at 1379, I think the answer is clear. In my view, just as the doctrine of equivalents cannot extend a patent’s scope to cover prior art, see *Wilson Sporting Goods Co. v. David Geoffrey & Assocs.*, 904 F.2d 677, 684 (Fed. Cir. 1990), it should not permit patents to be extended to cover new and nonobvious inventions.<sup>1</sup>

Moreover, where the purported equivalent is embodied in a subsequent patent, the finder of fact should afford a presumption of validity to the subsequent patent. Contrary to the panel majority’s suggestion, the Supreme Court did not hold to the contrary in *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30 (1929). There, the Court found a patent infringed under the doctrine of equivalents

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<sup>1</sup> In his opinion concurring in the denial of the petition for rehearing en banc, Chief Judge Rader urges that the doctrine of equivalents must include after-arising technology. Op. at 1 (Rader, C.J., concurring in denial of the petition for rehearing en banc). Our decisions have recognized that the doctrine of equivalents may sometimes capture after-arising technology where the original claims could have captured that technology by using more general claim language. For example, if a claim were to use the narrow term “clip” to describe an incidental aspect of the invention, the claim might be extended under the doctrine of equivalents to include all fasteners, including those subsequently developed. But this is a far cry from saying that a claim directed to a particular type of clip—i.e., where the invention in whole or in part is the clip itself—should cover after-arising and separately patentable fastening means.

even though the accused device was claimed in a subsequent patent. *Id.* at 43; see *Siemens*, 637 F.3d at 1280. But the Court found that the equivalent was “merely a colorable departure from the [claimed] structure” and was a “close copy which [sought] to use the substance of the invention . . . [to] perform precisely the same offices with no change in principle.” *Sanitary Refrigerator*, 280 U.S. at 41–42. The Court’s only reference to the subsequent patent was a single sentence stating: “Nor is the infringement avoided, *under the controlling weight of the undisputed facts*, by any presumptive validity that may attach to the [subsequent] patent by reason of its issuance after the [asserted] patent.” *Id.* at 43 (emphasis added). Evidently, the Court found that the “controlling weight of the undisputed facts” overcame the subsequent patent’s presumption of validity, not that the presumption of validity was irrelevant.

In short, a purported equivalent cannot be both in-substantially different and nonobvious, and in no event should the doctrine of equivalents permit a patent to capture another’s subsequent invention that is novel and nonobvious.<sup>2</sup> The majority’s contrary approach will deter innovation and hamper legitimate competition.<sup>3</sup>

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<sup>2</sup> The panel majority agrees that, where an “alleged equivalent is claimed in a separate patent,” that fact may be “weighed by the fact-finder” when conducting the doctrine of equivalents inquiry. *Siemens*, 637 F.3d at 1280. But this approach still does not adequately prevent the doctrine of equivalents from being used to improperly extend patent claims to capture subsequent inventions that are novel and nonobvious.

<sup>3</sup> In his opinion concurring in the denial of the petition for rehearing en banc, Judge Lourie argues that the ’080 patent was “in effect a dominant patent” and that “a patent does not grant a right to practice free from infringement liability.” *Op.* at 2 (Lourie, J., concurring in

For the foregoing reasons, I respectfully dissent.

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denial of the petition for rehearing en banc). Judge Lourie is correct that a “dominant patent” which includes an open-ended transition term such as “comprising” can prevent the practice of subsequent inventions that embody all of the dominant patent’s elements *plus additional elements*. This case, however, does not involve a dominant patent. Here, the ’420 patent’s point of novelty over the ’080 patent is not that it claims an *additional* element, but rather that it claims a *substitute* element (LYSO) that is different in kind from an element claimed in the ’080 patent (LSO). The doctrine of equivalents should not permit a patent to cover subsequent inventions which have replaced one or more of the patent’s claimed features with nonobvious substitute elements, thereby creating a new invention not covered by the original patent’s claims.