

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

IZUMI PRODUCTS COMPANY,)
)
 Plaintiff,)
)
 v.) Civ. No. 02-156-SLR
)
 KONINKLIJKE PHILIPS ELECTRONICS)
 N.V., a Dutch corporation; PHILIPS)
 ELECTRONICS NORTH AMERICA CORPORATION;)
 a Delaware corporation; and PHILIPS)
 DOMESTIC APPLIANCES AND PERSONAL)
 CARE B.V., a Dutch corporation,)
)
 Defendants.)

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MEMORANDUM OPINION

Dated: April 27, 2004
Wilmington, Delaware

ROBINSON, Chief Judge

I. INTRODUCTION

Izumi Products Company ("Izumi") filed an action against Koninklijke Philips Electronics and Philips Electronics North America Corporation N.V. on March 1, 2002 for willful infringement of U.S. Patent No. 5,408,749 (the "'749 patent") related to electric razors. (D.I. 1) On May 9, 2002, both defendants denied the allegations of infringement and asserted nine affirmative defenses including invalidity, noninfringement, estoppel, and laches. (D.I. 5) Koninklijke Philips Electronics and Philips Electronics North America Corporation N.V. also filed a counterclaim for declaratory judgment of noninfringement, invalidity, and unenforceability due to inequitable conduct. (Id.) Izumi denied the allegations of the counterclaim on May 29, 2002. (D.I. 7) Izumi filed an amended complaint on December 29, 2002 to add Philips Domestic Appliance and Personal Care B.V. as a defendant in its infringement suit against Koninklijke Philips Electronics and Philips Electronics North America Corporation N.V.. (D.I. 39 at ¶4) On January 15, 2003, Philips Domestic Appliance and Personal Care B.V. denied infringement of the '749 patent, asserted the same defenses as Koninklijke Philips Electronics and Philips Electronics North America Corporation N.V., and also filed a counterclaim for declaratory judgment of noninfringement, invalidity, and unenforceability due to inequitable conduct. (D.I. 53) The court will refer to

Koninklijke Philips Electronics, Philips Electronics North America Corporation N.V., and Philips Domestic Appliance and Personal Care B.V. collectively as "Philips."

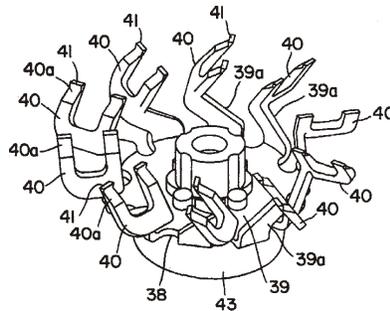
Izumi is a corporation organized under the laws of Japan with its principal place of business in Matsumoto, Nagano-Ken, Japan. (D.I. 1 at ¶ 1) Koninklijke Philips Electronics N.V. is a corporation organized under the laws of the Netherlands with its principal place of business in the Amsterdam and with business operations in the State of Delaware. (Id. at ¶2) Philips Electronics North America Corporation is a corporation organized under the laws of the State of Delaware with its principal place of business in New York. (Id. at ¶3) Philips Domestic Appliances and Personal Care B.V. is organized under the laws of the Netherlands with its principal place of business in Amsterdam. (D.I. 39 at ¶4) The court has original federal question jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

On December 9, 2002, Koninklijke Philips Electronics and Philips Electronics North America Corporation N.V. moved to bifurcate the issues of liability and damages or, in the alternative, to stay discovery of damages. (D.I. 34) The court denied this motion on February 27, 2003. (D.I. 77) Presently before the court are the parties' numerous summary judgment motions relating to infringement, invalidity, laches, and lost profits.

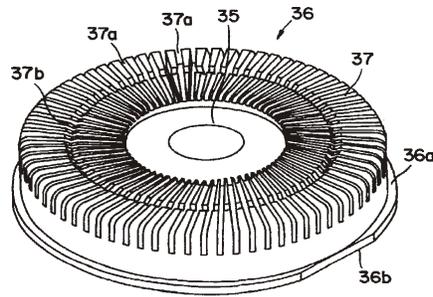
II. BACKGROUND

A. The '749 Patent

The patent in suit generally relates to an electric rotary razor. ('749 patent, col. 1 at ll. 5) More particularly, the patent in suit covers an electric rotary razor that includes an inner cutter located under an outer cutter. (Id. at ll. 6, 12-13) As facial hair or "whiskers" penetrate through the outer cutter, they are cut by a shearing force between the inner and outer cutters, much like a strand of hair is severed when caught between the blades of a pair of scissors. (Id. at ll. 12-14) An example of an inner cutter is shown in the figure below.



(Id., fig. 2) An example of an outer cutter is shown in the figure below.



(Id., fig. 3)

The electric rotary razor invention recited in the '749 patent was designed to reduce the contact pressure of the inner cutter against the bottom surface of the outer cutter by decreasing the size of the inner cutter blade. (Id., col. 2 at ll. 19-24) It also was designed to prevent shaving debris and other substances from adhering to the blades of the inner cutter. (Id. at ll. 25-28) To accomplish these two design objectives, "the rear portion of the cutting edge surface (or the portion which faces a direction opposite to the rotational direction of the inner cutter) is cut out." (Id. at ll. 40-43) The court shall refer to this "cut out" on the inner cutter as "recessed inner cutter."

The application which eventually became the '749 patent was filed on December 7, 1993. The '749 patent granted on April 25, 1995 with three claims, all of which are in dispute in the litigation at bar. Claims 1 and 3 are independent claims, and

claim 2 is dependent on claim 1. These claims recite:

1. An electric razor comprising:
 - at least one outer cutter with openings through which whiskers penetrate;
 - at least one inner cutter having a plurality of cutter blades, each one of said cutter blades having a cutting edge surface at an upper end thereof that slides on an inside surface of said outer cutter, said cutter blades being inclined in a direction of rotation of said inner cutter; and
 - a recess comprising an indentation formed immediately beneath said cutting edge surface and facing in a direction opposite from said direction of rotation of said inner cutter in each one of said plurality of cutter blades whereby said cutting edge surface is made thinner than a thickness of said cutter blade.

2. An electric razor according to claim 1, wherein said inner cutter further comprises a cutter disk with a through hole at a center thereof and a plurality of cutter arms extending from an outer edge of said cutter disk in a vertical direction relative to said cutter disk and said plurality of said cutter blades extend from said cutter arms.

3. An inner cutter used in an electric rotary razor comprising:
 - a cutter disk with a through hole at a center thereof;
 - a plurality of cutter arms extending from an outer edge of said cutter disk in a vertical direction relative to said cutter disk; a cutter blade extending from each one of said cutter arms and inclined in a rotational direction of said inner cutter, each one of said cutter blades being provided with a cutting edge surface at an end surface of said cutter blade and with a recess formed below said cutting edge surface, and wherein said recess is formed on a rear surface of said cutter blade, said rear surface facing an opposite direction from the rotational direction of said inner cutter.

(Id., col. 7 at ll. 14-27; col. 8 at ll. 1-24)

Izumi manufactures electric rotary razors with recessed inner cutters according to the claims of the '749 patent for Remington. Remington, in turn, sells these razors in the United States under the Remington label. (D.I. 182 at 4)

B. The Accused Infringing Products

Izumi alleges that 116 different electric rotary razors with common features infringe the '749 patent.¹ (D.I. 217 at 1) Specifically, they have three outer cutters with slots through which whiskers penetrate and three inner cutters with several cutting blades. (D.I. 173 at 5) The accused infringing electric rotary razors also employ a cutter disk with a hole in it. Arms extend from the cutter disk in a vertical direction. (Id. at 6) Cutting blades extend from the arms and are inclined in the direction of rotation. (Id.)

The inner cutters used on the various accused infringing

¹The accused infringing electric rotary razor models include the following: 8894XL, 8831XL, 7825XL, 6856XL, 6828XL, 6617X, 8892XL, 8825XL, 7617X, 6853XL, 6826XL, 6615X, 8890XL, 7885XL, 7616X, 6848XL, 6756X, 6614X, 8881XL, 7867XL, 6891XL, 6846XL, 6735X, 6613X, 8880XL, 7866XL, 6885XL, 6844XL, 6709X, 6424LC, 8867XL, 7865XL, 6867XL, 6843XL, 6706X, 6423LC, 8865XL, 7864XL, 6865XL, 6737X, 6705X, 5861XL, 8845XL, 7845XL, 6863XL, 6829XL, 6618X, 5885XL, 5865XL, 5802XL, 4845XL, 4401LC, 31DB, HP1912, 5855XL, 5801XL, 4826XL, 3805X, HQ156, HP1917/3, 5848XL, 5655X, 4821XL, 3605X, HQ156/2, HP1912/3, 5846XL, 5625XX, 4816XL, 3405LC, HQ5, HQ4/2, 5845XL, 5615X, 4805XL, 561X, HQ6, HQ2, 5841XL, 5605X, 4606X, 486XL, HQ167, HQ2/2, 5825XL, 5603X, 4605X, 484XL, HQ4, HP1912/2, 5822XL, 5601X, 4604X, 482XL, HQ4 Plus, HQ5, 5821XL, 5426LX, 4601X, 400DX, HQ8, 5812XL, 4865XL, 4417LC, 282XL, 1915XR, 5811XL, 4853XL, 4414LC, 242C, 1915XR2, 5810XL, 4852XL, 4413LC, 201DB, and HP1917. (D.I. 217 at 8-9)

electric rotary razors contain a groove on the backside to reduce the cutting surface. The court shall refer to this groove on the inner cutter as a "grooved inner cutter" to distinguish it from the recessed inner cutter of the claimed invention. (D.I. 217 at 5) The Rota '93 was the first grooved inner cutter blade used by Philips. Over time, Philips introduced other grooved inner cutter blades identified as the Cirrus, Cleo, Apollo, Neptunus Luna, and Jupiter for use in its electric rotary razors. (Id.) For example, the 7885XL electric rotary razor uses the Apollo inner cutter blade whereas the 6709X electric rotary razor employs the Neptunus-Luna inner cutter blade. (Id.)

Philips Domestic Appliance and Personal Care B.V. manufactures the accused infringing electric rotary razors and ships them to Philips Electronics North America Corporation N.V.. (D.I. 173 at 4) Norelco Products Company, a subsidiary of Philips Electronics North America Corporation N.V., sells the accused infringing electric rotary razors in the United States. (Id.)

III. STANDARD OF REVIEW

A court shall grant summary judgment only if "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P.

56(c). The moving party bears the burden of proving that no genuine issue of material fact exists. Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 586 n.10 (1986). "Facts that could alter the outcome are 'material,' and disputes are 'genuine' if evidence exists from which a rational person could conclude that the position of the person with the burden of proof on the disputed issue is correct." Horowitz v. Fed. Kemper Life Assurance Co., 57 F.3d 300, 302 n.1 (3d Cir. 1995) (internal citations omitted).

If the moving party has demonstrated an absence of material fact, then the nonmoving party "must come forward with 'specific facts showing that there is a genuine issue for trial.'" Matsushita, 475 U.S. at 587 (quoting Fed. R. Civ. P. 56(e)). The court will "view the underlying facts and all reasonable inferences therefrom in the light most favorable to the party opposing the motion." Pennsylvania Coal Ass'n v. Babbitt, 63 F.3d 231, 236 (3d Cir. 1995). The mere existence of some evidence in support of the nonmoving party, however, will not be sufficient for denial of a motion for summary judgment; there must be enough evidence to enable a jury reasonably to find for the nonmoving party on that issue. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 249 (1986). If the nonmoving party fails to make a sufficient showing on an essential element of its case with respect to which it has the burden of proof, then the moving party is entitled to judgment as a matter of law. Celotex Corp.

v. Catrett, 477 U.S. 317, 322 (1986). In other words, the court must grant summary judgment if the party responding to the motion fails to make a sufficient showing on an essential element of his case with respect to which he has the burden of proof. Omnipoint Comm. Enters., L.P. v. Newtown Township, 219 F.3d 240, 242 (3d Cir. 2000) (quoting Celotex, 477 U.S. at 323).

IV. DISCUSSION

A. Izumi's Motion for Summary Judgment of Literal Infringement and Philips's Cross-Motion for Summary Judgment of Noninfringement

A patent is infringed when a person "without authority makes, uses or sells any patented invention, within the United States . . . during the term of the patent." 35 U.S.C. § 271(a). A court should employ a two-step analysis in making an infringement determination. Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed. Cir. 1995). First, the court must construe the asserted claims to ascertain their meaning and scope. Id. Construction of the claims is a question of law subject to de novo review. See Cybor Corp. v. FAS Techs., 138 F.3d 1448, 1454 (Fed. Cir. 1998). The trier of fact must then compare the properly construed claims with the accused infringing product. Markman, 52 F.3d at 976. This second step is a question of fact. See Bai v. L & L Wings, Inc., 160 F.3d 1350, 1353 (Fed. Cir. 1998). Literal infringement occurs where each limitation of at least one claim of the patent is found exactly

in the alleged infringer's product. Panduit Corp. v. Dennison Mfg. Co., 836 F.2d 1329, 1330 n. 1 (Fed. Cir. 1987). The patent owner has the burden of proving infringement and must meet its burden by a preponderance of the evidence. SmithKline Diagnostics, Inc. v. Helena Lab. Corp., 859 F.2d 878, 889 (Fed. Cir. 1988) (citations omitted).

Izumi argues that the accused infringing electric rotary razors meet every limitation recited in claims 1, 2, and 3 of the '749 patent under its proposed claim construction. Izumi, therefore, contends that there are no genuine issues of material fact regarding literal infringement and that summary judgment should be granted in its favor. In rebuttal, Philips asserts that its electric rotary razors do not contain the "recess beneath/recess below" limitation of the asserted claims. Philips claims that the groove on its electric rotary razors is formed instead at the cutting edge surface and is orientated vertically with respect to the cutting edge surface. As a result, Philips maintains that its electric rotary razors do not infringe the '749 patent.²

²Philips also appears to argue that even if its accused infringing electric rotary razors literally infringe, the reverse doctrine of equivalents applies to shield it from liability. (See D.I. 217 at 17-19) The reverse doctrine of equivalents can prevent infringement "where a device is so far changed in principle from a patented article that it performs the same or a similar function in a substantially different way, but nevertheless falls within the literal words of the claims." Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 608-609 (1950). The reverse doctrine of equivalents is "an

Based upon the court's claim construction of the phrases "a recess comprising an indentation formed immediately beneath said cutting edge surface/a recess formed below said cutting edge surface," the court agrees with Philips. The court construed the "recess beneath/recess below" claim language to mean "a cut out formed directly under the cutting edge surface and orientated in a horizontal direction, parallel to the cutting edge surface." The 116 accused infringing electric rotary razors contain one of six possible inner cutter blades.³ (See D.I. 186 at 4) The grooves on these inner cutter blades are positioned at or begin flush with the cutting edge surface. They likewise do not lie immediately below or beneath the cutting surface. Additionally, the grooves are not horizontal or parallel to the cutting edge surface. Rather, they are orientated in a vertical direction,

equitable doctrine" that was judicially created "to prevent unwarranted extension of the claims [of a patent] beyond a fair scope of the patentee's invention." Scripps Clinic & Research Found. v. Genentech, Inc., 927 F.2d 1565, 1581 (Fed. Cir. 1991); see also Amgen Inc. v. Hoechst Marion Roussel, Inc., 314 F.3d 1313, 1351 (Fed. Cir. 2003) (stating that the reverse doctrine of equivalents "is equitably applied based upon underlying questions of fact"). This court has previously held that "a reverse doctrine of equivalents defense is grounded in the rules of equity and is not required to be submitted to a jury for decision." Ciena Corp. & Ciena Prop., Inc. v. Corvis Corp., 2004 WL 253481, *2 (D. Del. 2004). Accordingly, the court declines to further consider this argument in the instant motion for summary judgment made in anticipation of a jury trial.

³Izumi appears to agree that the blades shown in Philips's memorandum of points and authorities in support of its motion for summary judgment of noninfringement accurately reflect the possible cutting blades used on the 116 accused infringing razors. (See D.I. 207 at 3)

perpendicular to the cutting edge surface. The court, consequently, finds that no genuine issues of material fact exist as to the "recess beneath/recess below" limitation. The court grants summary judgment in favor of Philips and against Izumi on literal infringement grounds.

B. Philips's Motion for Summary Judgment of Noninfringement Under the Doctrine of Equivalents

For there to be infringement under the doctrine of equivalents, the accused product or process must embody every limitation of a claim, either literally or by an equivalent. Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 41 (1997). An element is equivalent if the differences between the element and the claim limitation are "insubstantial." Zelinski v. Brunswick Corp., 185 F.3d 1311, 1316 (Fed. Cir. 1999). One test used to determine "insubstantiality" is whether the element performs substantially the same function in substantially the same way to obtain substantially the same result as the claim limitation. Graver Tank, 339 U.S. at 608. This test is commonly referred to as the "function-way-result" test. The mere showing that an accused device is equivalent overall to the claimed invention is insufficient to establish infringement under the doctrine of equivalents. The patent owner has the burden of proving infringement under the doctrine of equivalents and must meet its burden by a preponderance of the evidence. See SmithKline Diagnostics, Inc. v. Helena Lab. Corp., 859 F.2d 878,

889 (Fed. Cir. 1988) (citations omitted).

Philips argues that the groove employed on its razors does not satisfy the function-way-result test. Philips contends that the groove does not prevent facial debris from adhering to the cutting edge surface, contrary to the function of the recess recited in the '749 patent. (See D.I. 182, Horenberg Declaration at ¶ 19; Cameron Declaration ¶ 15) Philips also argues that, even if there were such an unintentional reduction in debris adherence, this reduction would not be accomplished in substantially the same way as described in the '749 patent. To this end, Philips avers that the electric rotary razor claimed in the '749 patent reduces friction by creating a sharp trailing edge on the cutting surface whereas its 116 accused infringing razors reduce friction through a "Lift-and-Cut" mechanism.⁴ (See id., Horenberg Declaration at ¶ 18, Cameron Declaration at ¶ 25)

The court finds that genuine issues of material fact exist as to whether the 116 accused infringing electric rotary razors perform substantially the same function in substantially the same way as the electric rotary razor claimed in the '749 patent. While Izumi's expert testified that the purpose of the groove is to reduce friction during shaving, experts for Philips contend that the groove does not have any known effect on debris

⁴A "Lift-and-Cut" mechanism pulls whiskers deeper into the shaver on the front side of the inner cutter and away from the skin.

adherence. Similarly, the parties' experts disagree on how the '749 invention and the 116 accused infringing electric rotary razors reduce friction, if at all. The court, therefore, denies Philips's motion for summary judgment of noninfringement under the doctrine of equivalents.

C. Philips's Motion to Preclude Dr. Benedict's Opinion on Infringement Under the Doctrine of Equivalents

Federal Rule of Evidence 702 governs the admissibility of expert testimony. This rule provides that "[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case." In Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 589 (1993), the Supreme Court observed that Rule 702 "clearly contemplates some degree of regulation of the subjects and theories about which an expert may testify." The Supreme Court held that "[p]roposed testimony must be supported by appropriate validation -- i.e., 'good grounds,' based on what is known. In short, the requirement that an expert's testimony pertain to 'scientific knowledge' establishes a standard of evidentiary

reliability." Id. The Supreme Court further held that Rule 702 requires that the evidence or testimony assist the trier of fact to understand the evidence or to determine a fact in issue. Pursuant to these teachings, the Third Circuit has construed Rule 702 as embodying "three distinct substantive restrictions on the admission of expert testimony: qualifications, reliability, and fit." Elcock v. Kmart Corp., 233 F.3d 734, 741 (3d Cir. 2000).

To qualify as an expert under Rule 702, a witness must have sufficient qualifications in the form of knowledge, skills, and training. The Third Circuit articulated the standard for qualifying an expert in Waldorf v. Shuta, 142 F.3d 601 (3d Cir. 1998). The Third Circuit stated:

Rule 702 requires the witness to have "specialized knowledge" regarding the area of testimony. The basis of this specialized knowledge "can be practical experience as well as academic training and credentials." We have interpreted the specialized knowledge requirement liberally, and have stated that this policy of liberal admissibility of expert testimony "extends to the substantive as well as the formal qualification of experts." However, "at a minimum, a proffered expert witness . . . must possess skill or knowledge greater than the average layman.

Id. at 625 (citations omitted).

An expert's opinion is reliable if it is "based on the 'methods and procedures of science' rather than on 'subjective belief or unsupported speculation'; the expert must have 'good grounds' for his or her belief." In re Paoli Railroad Yard PCB Litigation, 35 F.3d 717, 742 (3d Cir. 1994) (quoting Daubert, 509 U.S. at 589). The Third Circuit has enumerated a list of factors

that a district court should consider in evaluating whether the proposed scientific methodology is "reliable" based upon Daubert and United States v. Downing, 753 F.2d 1224, 1238-41 (3d Cir. 1985). These factors include: "(1) whether a method consists of a testable hypothesis; (2) whether the method has been subjected to peer review; (3) the known or potential rate of error; (4) the existence and maintenance of standards controlling the technique's operation; (5) whether the method is generally accepted; (6) the relationship of the technique to methods which have been established to be reliable; (7) the qualifications of the expert witness testifying based on the methodology; and (8) the non-judicial uses to which the method has been put." Paoli, 35 F.3d at 742 n.8. In Kumho Tire Co., Ltd. v. Carmichael, 526 U.S. 137 (1999), the Supreme Court observed that this list is not exclusive and that each factor need not be applied in every case. To this end, the Supreme Court stated: "The trial judge must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable. That is to say, a trial court should consider the specific factors identified in Daubert where they are reasonable measures of the reliability of expert testimony." Id. at 152.

Finally, Rule 702 requires that the expert testimony must fit the issues in the case. In other words, the expert's testimony must be relevant for the purposes of the case and must assist the trier of fact. The Supreme Court explained that "Rule

702's 'helpfulness' standard requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility." Daubert, 509 U.S. at 591-92. This standard, nevertheless, is not intended to be a high one or to be applied in a manner that requires the plaintiffs "to prove their case twice -- they do not have to demonstrate to the judge by a preponderance of the evidence that the assessments of their experts are correct, they only have to demonstrate by a preponderance of evidence that their opinions are reliable." Oddi v. Ford Motor Co., 234 F.3d 136, 145 (citing Paoli, 35 F.3d at 744).

The district court acts as a "gatekeeper," preventing opinion testimony that does not meet the requirements of qualification, reliability, and fit from reaching the jury. Daubert, 509 U.S. at 597. "[T]he trial judge must determine at the outset, pursuant to Rule 104(a), whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue. This entails a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue." Id. at 592-92. The party offering the expert must satisfy this burden "by a preponderance of proof." Id. at 593 n.10.

Philips argues that Dr. Charles E. Benedict's testimony

regarding infringement under the doctrine of equivalents is inadmissible pursuant to Fed. R. Evid. 702 and Daubert. Dr. Benedict opines that Philips's accused grooved inner cutter performs substantially the same function as Izumi's recessed inner cutter by creating turbulence in the facial grease residue, thereby reducing or preventing the buildup of fat, skin, hair and other debris on the rear surface of the inner cutter blade. Philips challenges all three substantive restrictions identified by the Third Circuit regarding expert testimony. That is, Philips contends that: (1) Dr. Benedict is not qualified as an expert in the field of razor design; (2) his testimony is both unreliable and unsupported; and (3) his testimony would not assist the trier of fact.

The court disagrees in part as to Dr. Benedict's qualification as an expert and agrees in part as to the reliability and fit requirements. Dr. Benedict earned a Ph.D. in mechanical engineering from the University of Florida and is a registered professional engineer in Florida and Georgia. (See D.I. 208 at ¶ 1) He worked for over thirty-five years as an electro-mechanical design engineer during which time he designed, developed, tested, and manufactured more than fifty products and machine systems. (See id. at ¶ 2) Based upon Dr. Benedict's academic training and his work experience, the court finds that Dr. Benedict certainly possesses skill or knowledge greater than the average layman, the minimum requirement to qualify as an

expert under Rule 702. The fact that Dr. Benedict has served as an expert witness in more than 200 cases, none of which involved patent litigation or razor technology, is of little consequence to his ability to qualify as an expert in the case at bar. Moreover, the court is unpersuaded by Philips's attempt to discredit Dr. Benedict's qualifications by pointing out that three courts of the 200 courts before which Dr. Benedict appeared as an expert excluded his opinion. Therefore, the court concludes that Dr. Benedict has the proper qualifications to proffer an expert opinion, especially considering that the Third Circuit has liberally interpreted the requirement that a witness have specialized knowledge.

Turning to consider the reliability requirement, Dr. Benedict reviewed the grooved inner cutter found on only two accused infringing electric rotary razors, namely, the Norelco Model 7885XL-Quadra Action and the Norelco Model 710R6, in formulating his turbulence theory. (See id. at ¶ 10) He did not consider the grooved inner cutters on any of the other 114 accused infringing electric rotary razors. While the court acknowledges that turbulence is a well established engineering principle in the area of fluid dynamics, the court finds that Dr. Benedict essentially applied this theory to explain the function of the accused infringing electric rotary razors based solely on

his subjective belief.⁵ He did not perform any testing on any of the accused infringing electric rotary razors or, for that matter, on an electric rotary razor manufactured by Izumi to validate his theory. He likewise did not cite any literature reference to substantiate the application of the turbulence principle in the context of electric rotary razors. Although the Third Circuit has recognized that novel conclusions should not be excluded where the methodology and its application are reliable, Heller v. Shaw Indus., Inc., 167 F.3d 146, 153 (3d Cir. 1999), the court concludes that Dr. Benedict's theory is void of good grounds absent some form of support. As a result, the court concludes that Dr. Benedict's turbulence theory does not meet the test for admissibility.

Lastly, with respect to the fit requirement, the court does not find a valid scientific connection between Dr. Benedict's turbulence theory and the function of the grooved/recessed inner cutter. The jury, as such, potentially may be confused by Dr. Benedict's expert opinion. The court, consequently, concludes that Dr. Benedict's testimony will not aid the trier of fact. The court grants Philips's motion to preclude Dr. Benedict from testifying about turbulence in relation to infringement under the doctrine of equivalents.

⁵Dr. Benedict applied the principle of turbulence in developing a system to reclaim beaches, known as a permeable groin. (See id. at ¶ 5) A permeable groin, however, is very clearly not the same thing as an electric rotary razor.

D. Izumi's Motion for Partial Summary Judgment of No Anticipation of Claims 2 and 3 of the '749 Patent Under 35 U.S.C. § 102(b) and Philips's Cross-Motion for Summary Judgment of Anticipation of Claim 3 Under 35 U.S.C. § 102(b)

Under 35 U.S.C. § 102(b), "[a] person shall be entitled to a patent unless the invention was patented or described in a printed publication in this or a foreign country . . . more than one year prior to the date of the application for patent in the United States." The Federal Circuit has stated that "[t]here must be no difference between the claimed invention and the referenced disclosure, as viewed by a person of ordinary skill in the field of the invention." Scripps, 927 F.2d at 1576. In determining whether a patented invention is explicitly anticipated, the claims are read in the context of the patent specification in which they arise and in which the invention is described. Glaverbel Societe Anonyme v. Northlake Mktg. & Supply, Inc., 45 F.3d 1550, 1554 (Fed. Cir. 1995). The prosecution history and the prior art may be consulted if needed to impart clarity or to avoid ambiguity in ascertaining whether the invention is novel or was previously known in the art. Id. The prior art need not be *ipsissimis verbis* (i.e., use identical words as those recited in the claims) to be anticipating. Structural Rubber Prods. Co. v. Park Rubber Co., 749 F.2d 707, 716 (Fed. Cir. 1984).

A prior art reference also may anticipate without explicitly

disclosing a feature of the claimed invention if that missing characteristic is inherently present in the single anticipating reference. Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 1268 (Fed. Cir. 1991). The Federal Circuit has explained that an inherent limitation is one that is necessarily present and not one that may be established by probabilities or possibilities. Id. That is, “[t]he mere fact that a certain thing may result from a given set of circumstances is not sufficient.” Id. The Federal Circuit also has observed that “[i]nherency operates to anticipate entire inventions as well as single limitations within an invention.” Schering Corp. V. Geneva Pharms. Inc., 339 F.3d 1373, 1380 (Fed. Cir. 2003). Moreover, recognition of an inherent limitation by a person of ordinary skill in the art before the critical date is not required to establish inherent anticipation. Id. at 1377.

An anticipation inquiry involves two steps. First, the court must construe the claims of the patent in suit as a matter of law. Key Pharms. v. Hercon Labs Corp., 161 F.3d 709, 714 (Fed. Cir. 1998). Second, the finder of fact must compare the construed claims against the prior art. Id. A finding of anticipation will invalidate the patent. Applied Med. Res. Corp. v. U.S. Surgical Corp., 147 F.3d 1374, 1378 (Fed. Cir. 1998).

Izumi argues that Japanese Patent Publication 55-47879 (the

"Hamashima '879 publication")⁶ does not disclose "a plurality of cutter arms extending from an outer edge of said cutter disk in a vertical direction" as recited in claims 2 and 3 of the '749 patent. Izumi contends that the cutter arms disclosed in the Hamashima '879 publication extend "radially," and not from the outer edge of the cutter disk in a vertical direction. The court agrees. The court construed the phrase "a plurality of cutter arms extending from an outer edge of said cutter disk in a vertical direction relative to said cutter disk" to mean that "two or more projections extend in a vertical direction from the outer edge of the cutter disk." This construction does not provide for cutter arms that extend in a radial direction as shown in the Hamashima '879 publication. The court, therefore, concludes that the Hamashima '879 publication does not anticipate claims 2 and 3 of the '749 patent. The court grants Izumi's motion for partial summary judgment of no anticipation of claims 2 and 3 of the '749 patent and denies Philips's cross-motion for summary judgment that the Hamashima '879 publication anticipates claim 3 of the '749 patent.⁷

⁶Since the Hamashima '879 publication published in May 1980 and the '749 patent was not filed until 1993, the parties do not dispute that the Hamashima '879 publication qualifies as prior art under 35 U.S.C. § 102(b). The Hamashima '879 publication was not cited during the prosecution of the '749 patent in the United States.

⁷Izumi also moves to preclude Philips from relying on an untimely written opinion of counsel concerning the invalidity of the '749 patent based upon the Hamashima '879 publication. (See

E. Izumi's Motion for Partial Summary Judgment of No On-Sale Bar

Under 35 U.S.C. 102(b), "[a] person shall be entitled to a patent unless the invention was . . . on sale in this country, more than one year prior to the date of the application for patent in the United States." This statutory provision is commonly referred to as the "on sale bar," Brasseler, U.S.A.I., L.P. v. Stryker Sales Corp., 182 F.3d 888, 889 (Fed. Cir. 1999), and is intended to limit the time for an inventor to commercialize an invention before filing a patent application. Group One, Ltd. v. Hallmark Cards, Inc., 254 F.3d 1041, 1053 (Fed. Cir. 2001). The date one year prior to the date on which the patent application was filed, consequently, is known as the "critical date." Monon Corp. v. Stoughton Trailers, Inc., 239 F.3d 1253, 1257 (Fed. Cir. 2001). Since Izumi applied for the '749 patent on December 7, 1993, the critical date in this case is December 7, 1992.

The on sale bar is not limited to sales by the inventor, but also may result from activities of a third party that anticipate the invention. In re Epstein, 32 F.3d 1559, 1564 (Fed. Cir. 1994). Additionally, a single sale or even a single offer to sell for profit may trigger the on sale bar. In re Caveney, 761

D.I. 236) In light of the court's conclusion that the Hamashima '879 publication does not anticipate claims 2 and 3 of the '749 patent, the court denies Izumi's motion to preclude Philips from relying on an untimely opinion of counsel as moot.

F.2d 671, 676 (Fed. Cir. 1985). In any event, whether a product is on sale within the meaning of 102(b) "is a question of law with subsidiary issues of fact." In re Epstein, 32 F.3d at 1564.

In order for a patent to be held invalid under the on sale bar of § 102(b), the Supreme Court has held that two conditions must be satisfied prior to the critical date. "First, the product must be the subject of a commercial [sale or] offer for sale. . . . Second, the invention must be ready for patenting." Pfaff v. Wells Elecs., Inc., 525 U.S. 55, 67 (1998). An accused infringer, therefore, must demonstrate by clear and convincing evidence that "there was a definite sale or offer to sell more than one year before the application for the subject patent, and that the subject matter of the sale or offer to sell fully anticipated the claimed invention." Group One, 254 F.3d at 1047 (citations omitted).

Though the Supreme Court in Pfaff did not elaborate on what was meant by "a commercial offer for sale,"⁸ the Federal Circuit has held that this prong consists of two sub-parts. That is, the court must find that: (1) there was a "commercial offer;" and (2) said offer was for the patented invention. Scaltech, Inc. v.

⁸In contrast, the Supreme Court explained at length the "ready for patenting" prong. The Supreme Court stated that "[the second] condition may be satisfied in at least two ways: by proof of reduction to practice before the critical date; or by proof that prior to the critical date the inventor had prepared drawings or other descriptions of the invention that were sufficiently specific to enable a person skilled in the art to practice the invention." Pfaff, 525 U.S. at 59.

Retec/Tetra, L.L.C., 269 F.3d 1321, 1328 (Fed. Cir. 2001).

Recently, the Federal Circuit has defined what constitutes an offer for sale for purposes of this statutory bar. "Only an offer which rises to the level of a commercial offer for sale, one which the other party could make into a binding contract by simple acceptance (assuming consideration), constitutes an offer for sale under 102(b)." Group One, 254 F.3d at 1048. The Federal Circuit further has held that

[t]he question of whether an invention is the subject of a commercial offer for sale is a matter of Federal Circuit law, to be analyzed under the law of contracts as generally understood. To hold otherwise would potentially mean that a patent could be invalid in one state, when the patentee's actions amounted to an offer under the laws of that state, and valid in a second state, when the same actions did not amount to an offer under the laws of that second state. Such a result is clearly incompatible with a uniform national patent system.

Id. at 1047. An important source of general contract law for determining whether a communication or series of communications rises to the level of a commercial offer for sale is the Uniform Commercial Code. Id. at 1047 (citing Enercon GmbH v. Int'l Trade Comm'n, 151 F.3d 1376, 1382 (Fed. Cir. 1998)). The Supreme Court also has cited the Restatement of Contracts with approval in the commercial contract law context.⁹ Id. at 1048 (citing Mobil Oil

⁹Under the Restatement, "an offer is the manifestation of willingness to enter into a bargain, so made as to justify another person in understanding that his assent to that bargain is invited and will conclude it." Linear Tech. Corp. v. Micrel, Inc., 275 F.3d 1040, 1050 (Fed. Cir. 2001) (quoting Restatement (Second) of Contracts § 24 (1981)). "A manifestation of

Co. v. United States, 530 U.S. 604, 607 (2000)).

In any given circumstance, who is the offeror, and what constitutes a definite offer, requires looking closely at the language of the proposal itself. Language suggesting a legal offer, such as 'I offer' or 'I promise' can be contrasted with language suggesting more preliminary negotiations, such as 'I quote' or 'are you interested.' Differing phrases are evidence of differing intent, but no one phrase is necessarily controlling.

Id. (citing Restatement (Second) of Contracts §§ 24, 26 (1981)).

An offer for sale need not be accepted to implicate the on sale bar. Scaltech, 269 F.3d at 1328 (citing UMC Elecs. Co. v. United States, 816 F.2d 647, 653 (Fed. Cir. 1987)).

Turning to consider the second sub-part, "the invention that is the subject matter of the offer for sale must satisfy each claim limitation of the patent, though it may do so inherently." Scaltech, 269 F.3d at 1329. It is not necessary to show that all embodiments of the invention were on sale before the critical date; it is sufficient to show only that one embodiment was offered for sale more than one year before the filing date of the patent application. Id. at 1330. Additionally, it is not necessary for the inventor to recognize either the workings of his invention or its full potential when he makes an offer for sale within the meaning of § 102(b). Id. at 1331.

willingness to enter into a bargain is not an offer if the person to whom it is addressed knows or has reason to know that the person making it does not intend to conclude a bargain until he has made a further manifestation of assent." Linear Tech., 275 F.3d at 1050 (quoting Restatement (Second) of Contracts § 26 (1981)).

The parties dispute whether the invention recited in the '749 patent was offered for sale pursuant to the first prong of the Pfaff test. Specifically, Philips argues that Sears offered to sell and sold the "Rotomatic" and the "Craftsman" electric rotary razors in the United States in the late 1960s, 1970s, 1980s, and early 1990s through its consumer catalogs and retail stores. Philips also contends that Distler offered to sell and sold the "Town n' Country" electric rotary razor in the United States in the 1950s and 1960s through its distributor, the Daro Company.¹⁰ In response, Izumi charges that Philip's evidence regarding the three electric rotary razors is inadmissible and that, as a result, it cannot satisfy the clear and convincing burden of proof to establish invalidity under § 102(b). Izumi likewise claims that, even if such evidence were admissible, Philips failed to describe the specific configuration of the inner cutters used in the three types of razors.

Viewing the underlying facts and all reasonable inferences therefrom in a light most favorable to Philips, the court finds that there are no genuine issues of material fact as to whether the Rotomatic, Craftsman, and Town n' Country razors satisfy the

¹⁰Throughout discovery, Philips advanced the argument that it sold its Norelco Rota '93 electric rotary razors in the United States prior to the critical date. However, in its answering brief to the instant motion, Philips stated that it "will not assert that its own razors were offered for sale in the United States before the critical date." (D.I. 219 at 2)

first prong of the Pfaff test.¹¹ The Rotomatic and Craftsman razors were listed for sale in the Sears catalog in the late 1960s, 1970s, and 1980s. Nevertheless, advertisements, catalogs, and other promotional materials are generally considered invitations to solicit offers or enter into a bargain, not offers themselves. Richard A. Lord, *Williston on Contracts* § 4:7 at 286-87 (4th ed. 1990); *Restatement (Second) of Contracts* § 26, comment b. Indeed, the Federal Circuit has observed that "[m]ere advertising and promoting of a product may be nothing more than an invitation for offers, while responding to such an invitation may itself be an offer." Group One, 254 F.3d at 1048. While the court acknowledges that customers could readily have placed orders for these razors, the record is void of evidence concerning sales figures or the like to show that offers and/or sales, in fact, were made before the critical date. Similarly, it is unclear based upon the present record whether the Town n' Country razor ever was offered for sale or sold in the United States prior to the critical date. To support its allegations concerning this razor, Philips merely introduced two documents on the history of shaving, a few unidentified photographs, and an internet-based publication, stating: "The Piccalo was a very small shaver with a rather large batteryholder, which was used as

¹¹The parties do not dispute the second prong of the Pfaff test, to wit, whether the Rotomatic, Craftsman, and Town n' Country razors were "ready for patenting."

a place to store the shaver as well." (See D.I. 220, ex. 24, 25, 26) Moreover, the record completely fails to show whether the three razors meet all the limitations recited in the claims of the '749 patent. In light of the foregoing, the court grants Izumi's motion for partial summary judgment of no on sale bar.

F. Philips's Motion for Summary Judgment of Invalidity Under 35 U.S.C. 102(g) In View of Philips's Prior Invention

Under 35 U.S.C. § 102(g)(2), an applicant is not entitled to a patent if "before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it." The Federal Circuit has explained that "if a patentee's invention has been made by another, prior inventor who has not abandoned, suppressed, or concealed the invention, § 102(g) will invalidate that patent." Apotex USA, Inc. v. Merck & Co., 254 F.3d 1031, 1035 (Fed. Cir. 2001). The Federal Circuit also has observed that this section "retains the rules governing the determination of priority of invention." Hybritech, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1376 (Fed. Cir. 1986) (quoting Kimberly-Clark Corp. v. Johnson & Johnson, 745 F.2d 1437, 1444 (Fed. Cir. 1984)). To this end, a party alleging prior invention can establish that he was the first to invent by showing either: (1) he was first to reduce the invention to practice; or (2) he was first to conceive the invention and then exercised reasonable diligence in

attempting to reduce the invention to practice from a date just prior to the applicant's conception to the date of his reduction to practice. 35 U.S.C. § 102(g) ("In determining priority of invention . . . there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was the first to conceive and last to reduce to practice, from a time prior to conception by the other."). As recognized by the Federal Circuit,

[a] principal purpose of § 102(g) is to ensure that a patent is awarded to a first inventor. However, it also encourages prompt public disclosure of an invention by penalizing the unexcused delay or failure of a first inventor to share the "benefit of the knowledge of [the] invention" with the public after the invention has been completed.

Checkpoint Sys. v. United States Int'l Trade Comm'n, 54 F.3d 756, 761 (Fed. Cir. 1995) (citing Paulik v. Rizkalla, 760 F.2d 1270, 1280 (Fed. Cir. 1985)).

Conception is the "formation in the inventor's mind of a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied in practice." Hybritech, 802 F.2d at 1376 (citations omitted). A conception must encompass all limitations of the claimed invention, and "is complete only when the idea is so clearly defined in the inventor's mind that only ordinary skill would be necessary to reduce the invention to practice, without extensive research or experimentation." Singh v. Brake, 317 F.3d 1334, 1340 (Fed. Cir.

2002) (citations omitted). Put differently, every limitation must be shown to have been known to the inventor at the time the invention is alleged to have been conceived. Davis v. Reddy, 620 F.2d 885, 889 (C.C.P.A. 1980) (citing Schur v. Muller, 372 F.2d 546, 551 (1967); Anderson v. Anderson, 403 F. Supp. 834, 846 (D. D.C. 1975)). Because conception is a mental act, "it must be proven by evidence showing what the inventor has disclosed to others and what that disclosure means to one of ordinary skill in the art." In re Jolly, 308 F.3d 1317, 1321 (Fed. Cir. 2002) (quoting Spero v. Ringold, 377 F.2d 652, 660 (C.C.P.A. 1967)). The Federal Circuit has opined that a court should apply the "rule of reason" in determining conception. That is, the court should examine, analyze, and evaluate reasonably all pertinent evidence when weighing credibility of an inventor's story. Holmwood v. Sugavanam, 948 F.2d 1236, 1239 (Fed. Cir. 1991). Evidence in the form of documents does not need to be corroborated. Id. Rather, "[o]nly the inventor's testimony requires corroboration before it can be considered." Price v. Symsek, 988 F.2d 1187, 1195 (Fed. Cir. 1993).

Reduction to practice may either occur actually or constructively. Actual reduction to practice requires a showing by the inventor that "the invention is suitable for its intended purpose." Mahurkar v. C.R. Bard, Inc., 79 F.3d 1572, 1578 (Fed. Cir. 1996). This may require actual testing for a complicated invention or may require only the complete construction of a

prototype for a simple invention with obvious purpose and workability. Id. For a party alleging prior invention to establish that he actually reduced his invention to practice by testimony, he must corroborate his proffered testimony with independent evidence, which is evaluated under a rule of reason considering all the evidence. Loral Fairchild Corp. v. Matsushita Elec. Indus. Corp. Ltd., 266 F.3d 1358, 1363 (Fed. Cir. 2001). Notably, there is no requirement that the "prior invention" be commercialized in order for it to be actually reduced to practice. Steinberg v. Seitz, 517 F.2d 1359, 1363 (C.C.P.A. 1975). The key is whether the invention can be commercialized or has reached the point where "practical men [would] take the risk of commercializing the invention." Goodrich v. Harmsen, 442 F.2d 377, 383 (C.C.P.A. 1971). Constructive reduction to practice, in contrast, occurs when a party alleging prior invention files a patent application on the claimed invention. Hybritech, 802 F.2d at 1376.

The party alleging prior invention must be able to show diligence "from a date just prior to the other party's conception to . . . [the date of] reduction to practice [by the party first to conceive]." Monsanto Co. v. Mycogen Plant Sci., Inc., 261 F.3d 1356, 1369 (Fed. Cir. 2002); Mahurkar, 79 F.3d at 1577. However, it is not necessary for a party alleging prior invention to drop all other work and concentrate solely on the particular invention involved. Rines v. Morgan, 250 F.2d 365, 369 (C.C.P.A. 1957).

There also need not be evidence of activity on every single day if a satisfactory explanation is evidenced. Monsanto, 261 F.3d at 1369 (citations omitted). Additionally, determining whether the required "reasonable diligence" has been satisfied involves specific inquiry. Id. (citations omitted).

In order to avoid a finding that a prior invention was abandoned, suppressed, or concealed, the party alleging prior invention must take affirmative steps to make the invention publicly known. Friction Div. Prods., Inc. v. E. I. Du Pont de Nemours & Co., 658 F. Supp. 998, 1013 (D. Del. 1987) (citing Ralston Purina Co. v. Far-Mar-Co, Inc., 586 F. Supp 1176, 1215 (D. Kan. 1984)). The Federal Circuit has explained that,

when determining whether an inventor has abandoned, suppressed, or concealed an invention, a period of delay between completion of the invention and subsequent public disclosure may or may not be of legal consequence. The delay may be inconsequential if, for example, it is reasonable in length or excused by activities of the inventor. Furthermore, there is no particular length of delay that is per se unreasonable. Rather, a determination of abandonment, suppression, or concealment has "consistently been based on equitable principles and public policy as applied to the facts of each case." A court must determine whether, under the facts before it, any delay was reasonable or excused as a matter of law.

Checkpoint, 54 F.3d at 761 (citations omitted).

Finally, the party alleging prior invention must establish prior invention by clear and convincing evidence. Apotex, 254 F.3d at 1037-38. If the party alleging prior invention does so, then the burden of production shifts to the patentee to produce

evidence sufficient to create a genuine issue of material fact as to whether the party alleging prior invention abandoned, suppressed, or concealed the invention. Id. If the patentee carries this burden of production, then the party alleging prior invention may rebut the evidence of abandonment, suppression, or concealment with clear and convincing evidence. Id.

Philips argues that it conceived and actually reduced the grooved inner cutter to practice in the United States by November 1992. To this end, Philips asserts that its engineers conceived of the grooved inner cutter in the United States when they submitted their invention disclosure form written in Dutch to Philips's Corporate Intellectual Property and Standards Department in September 1990. In November and December 1992, Philips claims that it incorporated the grooved inner cutter into its Rota 93 line of electric rotary razors and shipped these razors to Norelco in the United States. Philips contends that these razors were then shown to its U.S. customers and exhibited at the Housewares Show in Chicago in January 1993. Philips charges that these activities all occurred well before Izumi conceived of the claimed recessed inner cutter in January 1993, filed a Japanese patent application directed to such cutter in February 1993, and brought said cutter into the United States in February 1993. Philips maintains that it, therefore, qualifies as a prior inventor under § 102(g) and that the '749 patent is invalid on prior invention

grounds.

For Philips to succeed in challenging the validity the '749 patent in the instant motion for summary judgment based on § 102(g), Philips must demonstrate by undisputed evidence that: (1) it shipped electric rotary razors with grooved inner cutters into the United States prior to February 1993; and (2) Izumi did not conceive of the invention first and exercise diligence in reducing it to practice. The court finds that Philips is unable to meet this burden as to its reduction to practice. While Philips claims that it mandated that all Rota 93 razors manufactured and shipped after November 6, 1992 contain the grooved inner cutter and that it produced 30,000 grooved inner cutters by week 38 of 1992 (see D.I. 237, Horenberg Deposition at 72-74; Schiferli Deposition at 80-81; D.I. 215, ex. 36 at P4228), there is evidence of record to undermine these contentions. The invoices cited by Philips as proof that it brought Rota 93 razors into the United States in November and December 1992 do not contain any information about the type of inner cutters used on the shipped electric rotary razors.¹² (See e.g., D.I. 193, ex. 11, 13, 14, 18, 19) Philips also made design changes to the grooved blades as of December 7, 1992 and worked extensively on the equipment used to mass produce those blades in January and February 1993. As a result, it did

¹²Non-grooved blades were interchangeable with grooved blades on the Rota '93 razor model. (See D.I. 214, ex. 8 at 60-61)

not officially release the Rota '93 electric rotary razor with grooved inner cutter for production until later in 1993. (See D.I. 214, ex. 6 at 131-133, 144-145, 172; D.I. 215, ex. 32, ex. 36; D.I. 239, ex. 32) Given this contradictory evidence, the court concludes that summary judgment is inappropriate as to Philips's reduction to practice in the United States.

With regard to Izumi's conception date, the court finds that no genuine issues of material fact exist. Izumi conceived in August 1991 of a recessed inner cutter with blades orientated in a vertical direction with respect to the direction of rotation. As noted above, conception must encompass all limitations of the claimed invention. Izumi's 1991 inner cutter, therefore, cannot qualify as a conception of the recessed inner cutter recited in the '749 patent because the claimed inner cutter blades are inclined in the direction of rotation, not positioned vertically. Moreover, applying the rule of reason, the court concludes that Izumi's own admission verifies that it did not have the idea of inclining the inner cutter blades in August 1991. Izumi argues in its answering brief to the instant motion that "common sense" dictates inclining the inner cutter blades since such orientation imparts a sharper edge for cutting. Nevertheless, Izumi particularly acknowledged in that same brief that it inclined the blades to improve their sharpness in October 1991, after finding in September 1991 that the blades were not adequately supported.

(See D.I. 205 at 4) Accordingly, the court denies Philips's motion for summary judgment on prior invention grounds in part as to Philips's reduction to practice and grants said motion in part as to Izumi's conception date.

G. Philips's Motion for Partial Summary Judgment on Laches

Laches is an equitable defense to a claim for patent infringement. A.C. Aukerman Co. v. R.L. Chaides Constr. Co., 960 F.2d 1020, 1028 (Fed. Cir. 1992). Laches is defined as "the neglect or delay in bringing suit to remedy an alleged wrong, which taken together with lapse of time and other circumstances, causes prejudice to the adverse party and operates as an equitable bar." Id. at 1028-1029. "In refusing to enforce a patentee's claim of infringement, the Supreme Court invoked the maxim: '[c]ourts of equity, it has often been said, will not assist one who has slept upon his rights, and shows no excuse for his laches in asserting them.'" Id. at 1029 (quoting Lane & Bodley Co. v. Locke, 150 U.S. 193, 201 (1893)). To establish the defense of laches, the defendant has the burden of proving two elements: (1) that the plaintiff delayed in filing suit for an unreasonable and inexcusable length of time after the plaintiff knew or reasonably should have known of its claim against the defendant; and (2) that the defendant suffered material prejudice or injury as a result of the plaintiff's delay. Id. at 1028.

With regard to the first prong of unreasonable delay, "[t]he

length of time which may be deemed unreasonable has no fixed boundaries but rather depends on the circumstances.” Id. at 1032 (citations omitted). In determining whether the plaintiff's delay in filing suit was unreasonable, the court must look to the period of time beginning when the plaintiff knew or reasonably should have known of the defendant's alleged infringing activity and ending when the plaintiff filed suit. The period does not begin, however, until the patent issues. Id. (citations omitted). In addition, the court must consider and weigh any excuses offered by the plaintiff for its delay including, but not limited to: (1) other litigation; (2) negotiations with the accused; (3) possible poverty or illness under limited circumstances; (4) wartime conditions; (5) the extent of the alleged infringement; and (6) a dispute over the ownership of the asserted patent. Id. at 1033 (citations omitted).

A presumption of unreasonable delay arises if the patentee delayed filing suit for six years after actual or constructive knowledge of the defendant's acts of alleged infringement. Id. at 1037. However, this presumption may be rebutted if the plaintiff is able to show sufficient evidence to generate a genuine issue of fact as to the existence of either one of the factual elements associated with the laches defense. Id. at 1038. If the presumption of laches is rebutted, the defense of laches is not eliminated. Rather, the defendant can still establish laches by

establishing the elements for this defense based upon the totality of the evidence presented. Id. at 1038.

Turning to consider the second prong of material prejudice, the defendant can establish either economic prejudice or evidentiary prejudice. Id. Evidentiary prejudice may arise where the delay has curtailed the defendant's ability to present a full and fair defense on the merits due to the loss of evidence, the death of a witness, or the unreliability of memories. Id. Economic prejudice arises where a defendant suffers the loss of monetary investments or incurs damages which would have been prevented if the plaintiff had filed suit earlier. Id. In this regard, courts must look for a change in the economic position of the alleged infringer during the period of delay; courts cannot simply infer economic prejudice from the possibility of damages pursuant to a finding of liability for infringement. Id.

"The application of the defense of laches is committed to the sound discretion of the district court." Aukerman, 960 F.2d at 1032 (citations omitted). Because it is equitable in nature, "mechanical rules" do not govern its application. Id. at 1032. Instead, the court must consider all of the facts and circumstances of the case and weigh the equities of the parties. "The issue of laches concerns delay by one party and harm to another. Neither of these factors implicates the type of special considerations which typically trigger imposition of the clear and

convincing standard." Consequently, the defendant must establish the elements for the laches defense by the preponderance of the evidence, consistent with the burden of proof in equitable laches and estoppel cases. Intuitive Surgical, Inc. v. Computer Motion, Inc., 2002 WL 31833867, *5 n.4 (D. Del. 2002). When laches is applied, the patentee may not recover any damages for the period of time prior to filing suit. Id. at 1028.

Philips argues that it is entitled to a presumption of laches because Izumi knew or should have known of the alleged infringement before March 1, 1996, six years before it filed its complaint, given that Izumi: (1) considered Norelco its only competitor in the United States for electric rotary razors; (2) was aware that Norelco introduced a new line of electric rotary razors in early 1993; and (3) visited the Norelco booth at the Housewares Show in January 1993 where the new line of electric rotary razors with the accused infringing grooved inner cutter was displayed. (See D.I. 183, ex. 1 at 15; D.I. 184, Izumi Dep. at 40-41) Philips asserts that a simple glance at the inner cutter blades in the pop-open head of any Norelco razor sold since 1993 would have revealed the presence of the groove. Philips also asserts that, even if the presumption is inapplicable, Izumi had actual knowledge of its grooved inner cutter no later than March 1997 when it examined the inner cutters from three of its electric rotary razors. (See D.I. 183, ex. 5, ex. 6 at 8; D.I. 184, Hirata

Dep. at 575) Philips likewise contends that it suffered both economic and evidentiary prejudice as a result of Izumi's delay in filing suit. In this regard, Philips charges that if it had been given notice of Izumi's infringement allegations, then it could have switched to one of several noninfringing substitute inner cutters, thereby avoiding damages claims approximating \$139 million for reasonable royalties and \$86 million in lost profits. Additionally, Philips avers that Izumi, in line with its five or six year retention policy, destroyed or lost documents involving competitive intelligence, consumer demand, and product testing that were created between 1992 and 1997. Philips complains that such documents were necessary for it to present complete invalidity, noninfringement, and laches defenses. (Id., Hirata Dep. at 283-285, 544-54, 570-571, 600, 629) Accordingly, Philips maintains that the equities weigh in favor of applying the doctrine of laches to limit Izumi's recovery for damages if it is found liable for infringement.

The court disagrees. Viewing the evidence in a light most favorable to Izumi, the court finds that partial summary judgment on Philips's affirmative defense of laches is inappropriate because there are many genuine issues of material fact. As to the presumption of laches, factual disputes exist as to whether Izumi had actual or constructive knowledge of Philips's use of a grooved inner cutter as of March 1, 1996. Izumi personnel testified that

they did not see the grooved inner cutter before 1997. Specifically, Izumi's president, Shunji Izumi, stated that he did not look inside Norelco razors at the Housewares Show in 1993 and never saw the grooved inner cutter until January 1998 when he learned of Philips's opposition to the European counterpart of the '749 patent. (See D.I. 214, ex. 10 at 250, 306-309) Mr. Izumi also stated that no one at Izumi looked at the accused infringing electric rotary razors in 1993, 1994, 1995, or 1996. (See D.I. 214 at 318-319) Additionally, despite the fact that Philips was Izumi's only competitor in the electric rotary razor market, Philips did not advertise the grooved inner cutter at any time. (See D.I. 182 at 6; D.I. 189 at 3-4) Indeed, Philips's own sales personnel reported that they were not aware of the grooved inner cutter until the instant litigation. (See D.I. 214, ex. 12 at 65-66, 75) This evidence suggests that nothing prompted Izumi to investigate Philips's activities for possible infringement, counter to Philips's allegations. Having recognized this, the court, nevertheless, is mindful that "laches will not be imputed to one who has been justifiably ignorant of facts which create his right or cause of action. But ignorance will not of itself excuse delay. The party must be diligent and make such inquiry and investigation as the circumstances reasonably suggest." Wanlass v. Gen. Elec. Co., 148 F.3d 1334, 1338 (Fed. Cir. 1998) (quoting Potash Co. Of Am. v. Int'l Minerals & Chem. Corp., 213 F.2d 153,

155 (10th Cir. 1954)). Thus, the court concludes that there is disputed evidence regarding the presumption of laches.

Assuming, arguendo, that the presumption of laches does not apply in the case at bar, the court finds genuine issues of material fact concerning whether the delay from the date Izumi knew about Philips's grooved cutter¹³ until it filed suit in March 2002 was unreasonable. From January 1998 to January 2002, Izumi engaged in an opposition proceeding in Europe involving the European counterpart to the '749 patent. Izumi claims that it waited to sue until the conclusion of the opposition in order to determine the bases and merits of Philips's objections, since such objections potentially were relevant to an infringement action in the United States. Izumi likewise was involved in other litigation with Philips concerning trade dress in various countries throughout the world beginning in 1990. (See D.I. 210 at 3-5) As noted above, the Federal Circuit has held that other litigation is an excuse that courts must consider when deciding whether a plaintiff's delay in filing suit was reasonable.

The court likewise finds disputed facts regarding both economic and evidentiary prejudice. While Philips contends that

¹³Accepting Philips's suggestion of March 1997 as the earliest possible date when Izumi knew of the grooved inner cutter, the period of delay, at most, is five years. Alternatively, accepting Izumi's argument that it did not know of the grooved inner cutter until January 1998, the period of delay, at minimum, is approximately four years and three months.

it would have switched from using the grooved inner cutters to a noninfringing alternative if it had been given notice of Izumi's infringement allegations, the court is not persuaded by this averment. After Izumi filed suit against Philips for infringement of the '749 patent, Philips did not switch to a substitute noninfringing inner cutter. Instead, Philips continued to sell the allegedly infringing grooved inner cutter, suggesting that it was more concerned about earning a profit than about Izumi's claim of infringement. Philips likewise did not seek the advice of counsel concerning the '749 patent until Izumi filed suit, and then limited the requested opinion exclusively to the issue of noninfringement, ignoring the validity of the '749 patent. (See D.I. 214, ex. 5 at 45-46, ex. 3 at 28-29) Egregious conduct by an alleged infringer can prevent a finding of laches by demonstrating the equities of the case favor the plaintiff. Aukerman, 960 F.2d at 1032. Moreover, contrary to Philips's allegations surrounding document destruction during the period of delay, Izumi points to evidence suggesting that it does not conduct consumer demand or marketing surveys. Izumi, as a result, could not have destroyed any such documents. (See D.I. 214, ex. 7 at 498-550, 504) Because there are disputed issues of material fact as to whether a presumption of laches exist and, if not, whether Philips can prove the two elements of laches by a preponderance of the evidence, the court denies Philips's motion for partial summary judgment on the

affirmative defense of laches.

H. Philips's Motion for Partial Summary Judgment on Izumi's Claim for Lost Profits Damages

The measure of damages is an amount which will compensate the patent owner for the pecuniary loss sustained because of the infringement. 35 U.S.C. § 284. The floor for a damage award is no less than a reasonable royalty, Seattle Box Co. v. Indus. Crating & Packing Inc., 756 F.2d 1574, 1581 (Fed. Cir. 1985), and the award may be split between lost profits as actual damages to the extent they are proven and a reasonable royalty for the remainder. See TWM Mfg. Co. v. Dura Corp., 789 F.2d 895, 898 (Fed. Cir. 1986).

To recover lost profits damages as actual damages, the patentee must show a reasonable probability that, "but for" the infringement, it would have made the sales that were made by the infringer. Rite-Hite Corp. v. Kelley Co., Inc., 56 F.3d 1538, 1545 (Fed. Cir. 1995) (citations omitted). The Federal Circuit has adopted a four-factor test, first articulated in Panduit Corp. v. Stahl Bros. Fibre Works, Inc., 575 F.2d 1152 (6th Cir. 1978), as a standard, non-exclusive method for a patentee to establish entitlement to lost profits damages. Under the Panduit test, the patentee must prove: (1) demand for the patented product; (2) absence of acceptable non-infringing substitutes; (3) manufacturing and marketing capability to exploit the demand; and (4) the amount of the profit it would have made. Id.

A patentee need not negate every possibility that a purchaser might have bought a product other than its own. Rite-Hite, 56 F.3d at 1545. On the contrary, so long as the patentee establishes each of the Panduit factors, the court may reasonably infer that the claimed lost profits were caused by the infringing sales. Id. Thus, by satisfying the Panduit test, the patentee establishes its prima facie case with respect to "but for" causation. The burden, in turn, shifts to the alleged infringer to show that the inference is unreasonable for some or all of the lost sales. Id.

Besides the Panduit test, the Federal Circuit has recognized that a patentee also may prove lost profits under a market share theory. State Indus., Inc. v. Mor-Flo Indus., Inc., 883 F.2d 1573, 1577 (Fed. Cir. 1989). Under this approach, a patentee recovers lost profits on the percentage of infringing sales equal to its market share. Id. at 1578. The Federal Circuit has explained that "[i]n the two-supplier market, it is reasonable to assume, provided the patent owner has the manufacturing and marketing capabilities, that it would have made the infringer's sales. . . . In these instances, the Panduit test is usually straightforward and dispositive." Id. The Federal Circuit has recognized, however, that a two-supplier market is not always in play and that the factors in the Panduit factors are not always applicable. Therefore, the Federal Circuit has held that awarding

lost profits based on market share is proper if the patentee shows an established market share in lieu of the absence of acceptable noninfringing alternatives and, at the same time, meets the three other Panduit factors. Id.

The entire market value rule arises to "allow[] for recovery of damages based on the value of an entire apparatus containing several features, even though only one feature is patented." Fonar Corp v. Gen. Elec., 107 F.3d 1543, 1552 (Fed. Cir. 1997). The Federal Circuit has applied this rule to allow for a recovery on the value of the entire apparatus only in situations where the patented feature is the basis for customer demand. Id. (citing Rite-Hite, 56 F.3d 1538, 1549). In the absence of this restriction, an infringer could be required to pay multiple recoveries on a single product to numerous patentees, each of whom file infringement claims directed to different components of the product without regard to the extent to which its patented component contributed to the overall profitability of the product. If the infringer's materials emphasize the value of the patented feature, then such emphasis serves as evidence that the feature is responsible for the customer demand. Fonar, 107 F.3d at 1552-53.

In an attempt to avail the entire market share rule, Philips argues that Izumi must present evidence allocating profits to those attributable to the patented feature and those attributable to other product features. Philips charges that Izumi cannot meet

this allocation. To this end, Philips points out that Marvin Levy, Izumi's lost profits damages expert, calculated Izumi's lost profits based upon the value of the electric rotary razor as a whole, not as between the patented recessed inner cutter and the other product features. (See D.I. 190, ex. 3 at 11-16, Appendix 6) Philips, therefore, contends that it is entitled to summary judgment on Izumi's lost profits claim and that Izumi is limited to pursue only a reasonable royalty.

The court disagrees with Izumi in part. Izumi alleges that Philips infringes all claims of the '749 patent. Claims 1 and 2 recite an electric razor, to wit, a complete apparatus. As such, assuming that Philips is found to infringe either claim, Izumi is entitled to lost profits based upon the value of the entire electric rotary razor as long as it is able to prove "but for" causation using the Panduit factors. However, if Philips is found to infringe only claim 3, which arguably recites a component part of an electric rotary razor, namely, an inner cutter, the court finds no genuine issues of material fact exist concerning whether the recessed inner cutter is the basis for customer demand for the allegedly infringing electric rotary razors. There is no evidence that Izumi marketed, advertised, or promoted the inner cutter component to consumers in the United States. (See D.I. 190, ex.1, Kakimoto Dep. at 154, Vatrtr Dep. at 85) In contrast, the evidence shows that Izumi successfully marketed a variety of other

features, including its Dual Track system, high performance motor, pop-up trimmer, charging indicator, dual voltage, and ergonomics. (See D.I. 190, Kakimoto Dep. at 155-156) Therefore, the court concludes that summary judgment is not premature as to claim 3. Accordingly, the court denies Philips's motion for partial summary judgment on Izumi's claim for lost profits damages in part as to claims 1 and 2 and grants said motion in part as to claim 3.

V. CONCLUSION

For the reasons stated herein, the court grants Izumi's motion for partial summary judgment of no anticipation of claims 2 and 3 of the '749 patent and denies Philips's cross-motion for summary judgment that the Hamashima '879 publication anticipates claim 3 of the '749 patent. The court denies Izumi's motion for summary judgment of literal infringement and Philips's motion for partial summary judgment on laches. The court grants Philips's cross-motion for summary judgment of noninfringement in part as to literal infringement and denies this motion in part as to infringement under the doctrine of equivalents. The court grants Philips's motion to preclude Dr. Benedict's turbulence opinion as it relates to infringement under the doctrine of equivalents and Izumi's motion for partial summary judgment of no on sale bar. The court denies Philips's motion for partial summary judgment on plaintiff's claim for lost profits damages in part as to claims 1 and 2 and grants said motion in part as to claim 3. The court

denies Philips's motion for summary judgment of invalidity under prior invention in part as to Philips's reduction to practice and grants this motion in part as to Izumi's conception. Finally, the court denies Izumi's motion to preclude Philips from relying on an untimely opinion of counsel as moot. An order shall issue.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

IZUMI PRODUCTS COMPANY,)
)
 Plaintiff,)
)
 v.) Civ. No. 02-156-SLR
)
 KONINKLIJKE PHILIPS ELECTRONICS)
 N.V., a Dutch corporation; PHILIPS)
 ELECTRONICS NORTH AMERICA CORPORATION;)
 a Delaware corporation; and PHILIPS)
 DOMESTIC APPLIANCES AND PERSONAL)
 CARE B.V., a Dutch corporation,)
)
 Defendants.)

O R D E R

At Wilmington this 27th day of April, 2004, consistent with
the memorandum opinion issued this same date;

IT IS ORDERED that:

1. Izumi's motion for partial summary judgment of no anticipation of claims 2 and 3 of the '749 patent by Japanese patent publication 55-47879 (D.I. 170) is granted.
2. Izumi's motion for summary judgment of literal infringement (D.I. 172) is denied.
3. Izumi's motion for partial summary judgment of no on sale bar (D.I. 175) is granted.
4. Philips's motion for partial summary judgment on laches (D.I. 181) is denied.
5. Philips's motion for summary judgment of noninfringement (D.I. 185) is granted in part as to literal infringement and denied in part as to infringement under the

doctrine of equivalents.

6. Philips's motion to preclude Dr. Benedict's opinion on infringement under the doctrine of equivalents (D.I. 185) is granted.

7. Philips's motion for partial summary judgment on plaintiff's claim for lost profits damages (D.I. 188) is denied in part as to claims 1 and 2 and granted in part as to claim 3.

8. Philips's motion for summary judgment of invalidity under prior invention (D.I. 191) is denied in part as to Philips's reduction to practice and granted in part as to Izumi's conception.

9. Philips's motion for summary judgment that the Hamashima '879 publication anticipates claim 3 of the '749 patent (D.I. 204) is denied.

10. Izumi's motion to preclude Philips from relying on an untimely opinion of counsel (D.I. 236) is denied as moot.

Sue L. Robinson
United States District Judge