

UNITED STATES DISTRICT COURT
DISTRICT OF CONNECTICUT

Applera Corporation and :
Roche Molecular Systems, Inc., :
 plaintiffs, :
 :
v. : 3:98cv1201 (JBA)
 :
MJ Research Inc. and Michael :
and John Finney, defendants. :

Partial Ruling on Defendants’/Counterclaim Plaintiffs’ Motion for Summary Judgment of Non-Infringement Concerning U.S. Patent No. 5,333,675 [Doc. #730], Motion for Summary Judgment That They Do Not Directly or Literally Infringe Claim 16 of U.S. Patent No. 5,656,493 [Doc. #737], Renewed Motion for Summary Judgment of Non-Infringement with Respect to U.S. Patent 5,474,610 [Doc. #732], and Applera’s Motion to Preclude Defendants from Asserting Newly Raised Defenses Pursuant to Fed. R. Civ. P. 37(c)(1) or, in the Alternative, to Continue Defendants’ Summary Judgment Motions Pursuant to Fed. R. Civ. P. 56(f) [Doc. #817]

This ruling addresses defendants’ contention that they do not as a matter of law literally infringe claims 17, 33, and 45 of U.S. Patent 5,333,675 (the “’675 Patent”), claim 16 of U.S. Patent No. 5,656,493 (the “’493 Patent”), and claims 1, 44, 158, 160, 161, 163 of U.S. Patent 5,474,610 (the “’610” Patent) because the metal block structure of the asserted claims is not literally present in the vast majority of their thermal cyclers. In addition, the ruling addresses defendants’ attendant argument that they do not as a matter of law infringe claim 45 of the ’675 Patent under the doctrine of equivalents by operation of the doctrine of prosecution history estoppel. As set forth below, defendants’ motions [Doc. ##730, 732, 737] are GRANTED in PART

and DENIED in PART, and plaintiffs' corresponding preclusion/discovery motion [Doc. #817] is DENIED in PART.

I. Legal Standards

A. Summary Judgment

Summary judgment "shall be rendered forthwith 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 a judgment as a matter of law." Fed. R. Civ. P. 56(c). A fact is "material" for these purposes if it "might affect the outcome of the suit under the governing law," Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986), and an issue as to a material fact is "genuine" if "the evidence is such that a reasonable jury could return a verdict for the nonmoving party." Id. Accordingly, summary judgment may be granted "[w]here the record taken as a whole could not lead a rational trier of fact to find for the non-moving party." Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 587 (1986).

Where a party moves for summary judgment against a claim on which the non-moving party bears the burden of proof at trial, the moving party still has the initial responsibility to inform the district court of the basis for its motion, namely, to

identify those portions of the court or discovery record together with affidavits, if any, believed to demonstrate the absence of a genuine issue of material fact on an essential element of the non-moving party's claim. See Celotex Corp. v. Catrett, 477 U.S. 317, 322-24 (1986). The non-moving party must then go beyond the pleadings and by her own affidavits, or by evidentiary support found in the court or discovery record, designate specific facts establishing a genuine issue of material fact on any element essential to the non-moving party's case that was sufficiently called into question by the moving party. See id. The "District Court must resolve any factual issues of controversy in favor of the non-moving party," Lujan v. Nat'l Wildlife Fed'n, 497 U.S. 871, 888 (1990), mindful that "at the summary judgment stage the judge's function is not himself to weigh the evidence and determine the truth of the matter but to determine whether there is a genuine issue for trial." Anderson, 477 U.S. at 249. However, the object of Rule 56(e) "is not to replace conclusory allegations of the complaint or answer with conclusory allegations of an affidavit," Lujan, 497 U.S. at 888, and therefore the non-moving party must "do more than simply show that there is some metaphysical doubt as to the material facts." Matsushita, 475 U.S. at 586. The District Court's ultimate concern is "whether there is a need for a trial -- whether, in other words, there are any genuine factual issues that properly

can be resolved only by a finder of fact because they may reasonably be resolved in favor of either party." Anderson, 477 U.S. at 250.

In addition, a non-moving party is entitled to adequate discovery before it can be forced to make a showing sufficient to establish the existence of an element essential to its case (on which it bears the burden of proof at trial), see Celotex, 477 U.S. at 322, and Fed. R. Civ. P. 56(f) provides the procedural mechanism by which a district court guarantees such fair opportunity, see Anderson, 477 U.S. at 250 n.5. Rule 56(f) provides,

Should it appear from the affidavits of a party opposing the motion that the party cannot for reasons stated present by affidavit facts essential to justify the party's opposition, the court may refuse the application for judgment or may order a continuance to permit affidavits to be obtained or depositions to be taken or discovery to be had or may make such other order as is just.

The Second Circuit has stated, "Federal Rule of Civil Procedure 56(f) provides an opportunity to postpone consideration of a motion for summary judgment and to obtain additional discovery by describing: (i) the information sought and how it will be obtained; (ii) how it is reasonably expected to raise a genuine issue of material fact; (iii) prior efforts to obtain the information; and (iv) why those efforts were unsuccessful." Oneida Indian Nation of New York v. City of Sherrill, New York

337 F.3d 139, 167 (2nd Cir. 2003).¹ "Only in the rarest of cases may summary judgment be granted against a plaintiff who has not been afforded the opportunity to conduct discovery." Miller v. Wolpoff & Abramson, L.L.P., 321 F.3d 292, 303-04 (2d Cir. 2003) (citing Hellstrom v. United States Dep't of Veterans Affairs, 201 F.3d 94, 97 (2d Cir. 2000)). In the context of applying First Circuit precedent to a Rule 56(f) problem, the Federal Circuit has warned,

The grant of summary judgment of non-infringement, with respect to accused devices whose components or methods are not readily observable and are in dispute, requires sufficient discovery to assure that the issue has been fully and fairly resolved.

Vivid Tech., 200 F.3d at 809.

B. Patent Infringement

"Determining patent infringement requires determining whether someone (1) without authority (2) makes, uses, offers to sell, sells, or imports (3) the patented invention (4) within the United States, its territories, or its possessions (5) during the term of the patent." Herbert F. Schwartz, Patent Law & Practice (Fed. Judicial Center, 3d ed. 2001) at 131 (footnote omitted) (citing 35 U.S.C. § 271(a)). The element at issue in defendants'

¹ Second Circuit law applies here: "On procedural issues not unique to the areas of law that are exclusively assigned to the Federal Circuit, the procedural law of the regional circuit is applied. Discovery under Rule 56(f) is of such a nature...." Vivid Tech. v. Amer. Science & Eng'g, 200 F.3d 796, 807 (Fed. Cir. 1999).

motions is the third, whether defendants' thermal cyclers are the patented invention of the asserted claims.

When addressing this third element, a two-step process is used: first, the court determines the meaning, as a matter of law, of the particular claim or claims at issue, and second, it must be determined whether the accused product infringes the properly construed claim, which is generally a question of fact. Markman v. Westview Instruments, 517 U.S. 370, 384 (1996); Allen Eng'g Corp. v. Bartell Indus., Inc., 299 F.3d 1336, 1344 (Fed. Cir. 2002).² However, with respect to the second step, "the grant of summary judgment is appropriate in a patent case where the standards set forth in Rule 56(c) are satisfied." Conroy v. Reebok Int'l, Ltd., 14 F.3d 1570, 1575 (Fed. Cir. 1994).

"To establish infringement, every limitation set forth in a patent claim must be found in an accused product or process exactly or by a substantial equivalent." Laitram Corp. v. Rexnord, Inc., 939 F.2d 1533, 1535 (Fed. Cir. 1991). "The patentee bears the burden of proving infringement by a preponderance of the evidence." Id. There are thus two varieties of infringement: literal infringement and infringement under the doctrine of equivalents.

"[A]n accused product literally infringes if every limitation recited in the claim appears in the accused product,

² The Court has already performed the first step. See Claim Construction [Doc. #715].

i.e., the properly construed claim reads on the accused product exactly." Jeneric/Pentron, Inc. v. Dillon Co., 205 F.3d 1377, 1382 (Fed. Cir. 2000) (citing Amhil Enters. Ltd. v. Wawa, Inc., 81 F.3d 1554, 1562 (Fed. Cir. 1996)). "Infringement may be found under the doctrine of equivalents when . . . [1] every limitation of the asserted claim, or its equivalent, is found in the accused subject matter, [2] the latter differs from what is literally claimed only insubstantially, and [3] it performs substantially the same function in substantially the same way to achieve substantially the same result." Wright Medical Tech. v. Osteonics Corp., 122 F.3d 1440, 1444 (Fed. Cir. 1997) (citing, inter alia, Warner-Jenkinson Co. v. Hilton Davis Chemical, 520 U.S. 17, 40 (1997)).³

³ Some of the asserted claims relevant to this motion contain elements expressed in means plus function form under 35 U.S.C. § 122, ¶ 6, which provides,

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

An accused structure literally infringes a claim expressed in means plus function format if it constitutes equivalent structure (as opposed to structural equivalence) to the claim's corresponding structure as disclosed in the patent's specification. See IMS Tech., Inc. v. Haas Automation, Inc., 206 F.3d 1422, 1430, 1435-37 and n.4 (Fed. Cir. 2000); Al-Site Corp. v. VSI Int'l, Inc., 174 F.3d 1308, 1315-17, 1319-21 (Fed. Cir. 1999). "A key feature that distinguishes "equivalents" under section 112, paragraph 6 and "equivalents" under the doctrine of equivalents is that section 112, paragraphs 6 equivalents must perform the identical function of the disclosed structure . . . while equivalents under the doctrine of equivalents need only perform a substantially similar function...." Kemco Sales, Inc. v. Control Papers Co., 208 F.3d 1352, 1364 (Fed. Cir. 2000) (citations omitted). Plaintiffs do not argue that defendants' sample holder literally meets the heating and cooling means plus function limitation of claims 17 and 33 of the '675 Patent as a section 112, paragraph 6 equivalent but argue only that it is the structural

II. Applera's Motion to Preclude Defendants from Asserting Newly Raised Defenses Pursuant to Fed. R. Civ. P. 37(c)(1) or, in the Alternative, to Continue Defendants' Summary Judgment Motions Pursuant to Fed. R. Civ. P. 56(f) [Doc. #817] to Conduct Supplemental Discovery

Applera charges that defendants have refused to provide supplemental discovery that would enable Applera to fully and fairly evaluate one of the grounds raised in support of defendants' motion for summary judgment directed to the '675 Patent: the metal block structure of the asserted claims does not literally appear in some of defendants' thermal cyclers because those models use a sample holder. Applera points out that fact discovery closed on October 27, 2000, defendants first raised the defense by supplementing on September 25, 2003 responses to interrogatories that had originally been served in August 1998, see Cote Decl. [Doc. #802] Ex. A at 6, and that, during a December 1, 2003 conference, the Court encouraged the defendants to provide Applera with information to the end that the parties could agree on the merit of the defense and thereby obviate the need to burden the Court with unnecessary summary judgment motions.

Applera summarizes the parties' subsequent communications between December 5 and December 19, 2003, the date defendants

equivalent of the metal block structure of those claims (in addition to being insubstantially different under the judicial doctrine of equivalents). The Court understands this to be a conscious decision. Compare Pls.' Opp'n [Doc. #799] at 12-14 and Margulies Decl. [Doc. #803] ¶¶ 12-14, 17 with Pls.' Opp'n [Doc. #799] at 25-26 and Margulies' Decl. [Doc. #803] ¶¶ 20, 32-33.

filed their summary judgment motions. On December 10, 2003, Applera outlined in a letter to defendants exactly the information it required before it would be able to evaluate defendants' newly raised sample holder defense:

_____3. As to your contention that the MJ thermal cyclers have never used a metal block with a recess in the top surface, but rather have always used a plate with wells mounted to the top of the plate, for the period 1991 to the present, we need you to provide us with documents sufficient to determine the current and historical process by which MJ has manufactured its metal blocks or plates including the equipment that has been used and the process by which the wells are formed, and the current and historical engineering drawings.

Cote Decl. [Doc. #802] Ex. C at 1-2. In response, defendants refused to provide any further disclosures, maintaining that manufacturing procedures for making their sample holders were irrelevant to the issue of infringement, and, even if not, defendants contract out the manufacture and only receive the end product. See id. Ex. D at 2. Exchanges of another set of letters (on December 16 and December 19, 2003) did nothing to alter the impasse. See id. Ex. E, F.

Applera contends it needs the requested discovery to respond to defendants' summary judgment motion. Specifically, it asserts that engineering documents and specifications on the manufacture of MJ's "sample holders" and identification of the third party who manufactures the "sample holders" will confirm that defendants' "sample holders" are in fact metal blocks having recesses or wells and viewed as such by defendants and third

party manufacturers.

Accordingly, Applera requests the Court deny defendants' motion for summary judgment as to the sample holder defense and preclude defendants from relying on it at trial under Fed. R. Civ. P. 37(c)(1), or, in the alternative, requests further discovery pursuant to Fed. R. Civ. P. 56(f). In reply, defendants maintain that the discovery requested by Applera is immaterial as the manufacture of defendants' sample holders is irrelevant to the question of infringement of the asserted claims. Defendants' explanation regarding their delay to September 25, 2003 to supplement their interrogatory responses with the sample holder defense is their representation at oral argument that the parties' informally agreed to complete their discovery supplementation by September 30, 2003. As set forth below in the context of the infringement discussion, plaintiffs' motion [Doc. #817] is DENIED in PART in that defendants may raise their sample holder defense and no further discovery is required on it.

III. The '675 Patent

A. "Means for Heating and Cooling Said Container to or at any of a plurality of temperatures" Limitation of Claims 17, 33, and 45 of the '675 Patent

1. Claim Construction [Doc. #715]

The Court construed the means for heating and cooling

limitation of claims 17 and 33 of the '675 Patent to require a metal heat-conducting block with a reaction well (or vessel), which may be a recess machined into the block or may be a plastic container which holds fluids and sits in a recess formed in the block. See Claim Construction [Doc. #715] at 6, 17. The means for heating and cooling limitation of claim 45 was construed identically with the exception that the metal block was construed to require a plurality of recesses for supporting a plurality of containers where the definition of recess is limited to a recess machined into the block (and cannot include a plastic container). See id. at 18-19. None of the claims were construed to require the recess to be in the top surface of the heat exchanger versus in its side or bottom. See id. at 6 and n.3.

2. Parties' Arguments

Defendants argue that the Court's Claim Construction of claims 17, 33, and 45 required the use of a metal block with a plurality of receptacles for holding a plurality of containers,⁴ and therefore, as the vast majority of MJ's thermal cyclers are not sold with, and are not intended to employ, a metal block with a plurality of receptacles, they do not literally infringe claims 17, 33, and 45 of the '675 Patent. See Defs.' Mem. [Doc. #731]

⁴ Defendants misread the Court's claim construction when they characterize it as having imposed the plurality of receptacles for holding a plurality of containers limitation on more than claim 45. See Defs.' Mem. [Doc. #731] at 3.

at 3.⁵ By declaration (with attached draft schematic of a sample holder), defendants assert that, with the exception of thermal cycler model PTC100-60, MJ's thermal cyclers are not sold with a metal block with a plurality of recesses shaped to fit a plurality of chambers but are sold with a "sample holder, which is a metal plate with supports projecting up to hold chambers." Defs. Mem. [Doc. #731] at 7; see Decl. of Michael Finney [Doc. #744] ¶¶ 7-8 ("a sample holder, which is a metal plate with metal tube holders projecting up from the surface."), Ex. E.⁶ Defendants admit MJ sells a 384-well block but assert that it is not capable of holding a plurality of individual sample tubes and in fact no individual sample tubes are available for it from any manufacturer; instead, it holds only a unitary plate consisting of a top surface with 384 indentations projecting downwards. See Decl. of Michael Finney [Doc. #744] ¶ 8.

To assert the existence of a genuine issue of material fact, plaintiffs submit the declaration of their technical expert, Dr. Marcel Margulies, who opines that, based on his inspection of MJ's "sample holders" (including those found in models PTC-100, PTC-150, PTC-200, PTC-220, PTC-225, and Opticon cyclers or

⁵ Defendants' supporting memorandum is confusing in that it invokes the metal block limitation as a basis for non-infringement with respect to claims 17, 33, and 45, see Defs.' Mem. [Doc. #731] at 3, but then discusses only claim 45 in its substantive argument, see id. at 17-19. This presumably resulted from defendants' incorrect reading of the Claim Construction. See supra note 4.

⁶ A copy of exhibit E, draft schematic of a sample holder, is attached to this ruling as Appendix A.

systems), the "sample holder" is in fact a metal block having a plurality of recesses for supporting a plurality of containers and that, although not required by the Court's claim construction, the recesses are formed below the top surface of the block and capable of holding a sample tube. See Margulies Decl. [Doc. #803] ¶¶ 11-12. His conclusion is premised on the "sample holder" being formed by drilling holes into the top surface of a metal block and cutting away the metal around the holes. See id. ¶ 13 ("The 'sample holder' is formed by drilling holes into the top surface of the metal and cutting away the metal around the wells. Attached hereto as Exhibit 1 is a photograph of a metal block used in an MJ thermal cyclers after drilling recesses in the top surface for holding the sample tubes and cutting away the surrounding metal. The metal block of claim 45 is thus literally present in MJ's thermal cyclers.") (emphasis added).⁷ On this basis, he reaches his ultimate conclusions that the metal block structure of claims 17, 33, and 45 of the '675 Patent is literally present in MJ's "sample holder." See id. ¶¶ 13-14.

Plaintiffs also point to multiple past references by

⁷ The photograph attached as exhibit 1 to Margulies' declaration depicts a metal plate or platform with circular metal tube-like projections or protrusions rising out of the plate or platform. There is air between the projections/protrusions. A copy of the photograph is attached to this ruling as Appendix B.

defendants⁸ characterizing what they now label a "sample holder" as a metal block or a block with wells, which, they contend, taken in combination with Marguillies' opinions, raise a genuine issue of material fact concerning whether MJ's "sample holder" is claim 45's metal block having a plurality of recesses for supporting a plurality of containers, either literally or under the doctrine of equivalents, or claim 17 and claim 33's metal block with at least one reaction well, either literally or under the doctrine of equivalents.

With respect to MJ's 384-well block, Applera argues that defendants incorrectly limit the "plurality of containers" specified in the Court's construction of claim 45 to a "plurality of individual sample tubes" whereas nothing in the Court's construction would preclude them from being the plurality of indentations projecting downwards present in the 384-well block.

In reply, MJ maintains that the method by which it makes its

⁸ Marketing materials MJ submitted to customers, see Hoeffner Decl. [Doc. #801] Ex. 10, deposition of Michael Finney, see e.g. id. Ex. 11 at 971:13-15 ("A. In block control you adjust the temperature of the metal block of the thermal cyclor to reach exactly the programmed temperature."), Michael Finney's March 23, 2001 affidavit in support of MJ's original motion for summary judgment with respect to U.S. Patent No. 5,474,610, see Finney Aff. [Doc. #489] ¶ 4 ("In block mode, the temperature of the metal block itself is measured and controlled directly by a computer in accordance with the temperature protocol in use. Block mode causes the PTC-100 or PTC-150 [of DNA Engine] to drive its metal sample block to precisely the designated temperature (e.g., 95° C) and to hold it there for precisely the designated time (e.g., 2 minutes) based on the measured temperature of the metal block."), MJ's quality control procedures, see Hoeffner Decl. [Doc. #801] Ex. 12 (PTC-200/225 ... Final Visual Inspection Criteria) at MJ2013197 ("Block Wells"), and deposition testimony of an MJ employee, see id. Ex. 13 (Cabral Depo.) at 102:16-102:23 ("Q. So the tubes are placed into the wells of the block. ... Correct? ... A. Yes.").

sample holders (assuming, as Margulies' asserts, starting with a metal block and then removing the excess metal) is irrelevant to the infringement analysis because the device which is actually placed in the MJ thermal cyclers for sale is a sample holder not a metal block, citing Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1230, 1541 (Fed. Cir. 1983). Similarly, MJ argues that, irrespective of how older MJ advertisements⁹ characterized what is now called a "sample holder," the objective fact is that MJ's thermal cyclers use sample holders. In addition, MJ contends that sample holders are "clearly different" from Applera's metal block because the samples are separated mainly by air and "[i]t is an undisputable thermodynamic principle that air heats and cools more quickly than metal." Reply [Doc. #866] at 3.

Moreover, urge defendants, the "projections" extending upward from the metal plate of a sample holder cannot, as a matter of common sense, equate to the recess or well of claims 17, 33, and 45 of the '675 Patent. MJ points to the Court's construction - that claim 17 of the '675 Patent requires a metal block with a reaction well or vessel and that the reaction well or vessel "may be a recess machined into the [metal block] or may be a plastic container which holds fluids and sits in a recess formed in the [metal block]," Claim Construction [Doc. #715] at 6

⁹ Defendants' use of the word "advertisements" is read to include Michael Finney's prior deposition testimony and sworn affidavit, MJ's internal quality control procedures, and the deposition of MJ employee Cabral.

- and argues that the plain meaning of the words "block" and "recess" require the metal block of claim 17 (and correspondingly claims 33 and 45) to be interpreted as a "mass of matter [metal] with an extended surface" (or "a solid body of ... metal ... with surfaces more or less plane") with a "receding or hollow place ... in a surface," citing Webster's Unabridged Dictionary 196, 1505 (2nd ed. 1983).

3. Literal Infringement and Plaintiffs' Rule 37(c)(1)/56(f) Motion

The critical legal inquiry for literal infringement of a product patent is whether every limitation recited in a claim appears in the accused product exactly. See Laitram, 939 F.2d at 1535. The comparison is an objective one, focusing on the actual physical characteristics of the patented and accused products. See e.g., Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1422-23 (Fed. Cir. 1997) (no literal infringement where elongated slot of accused product was located within a container body but the elongated slot of the patent claim located at the top of a container body). Thus, a patented product is literally infringed by an identical product even if the infringer copied the patented product exactly but manufactured the infringing product by means or a method different from the preferred manufacturing method disclosed in the specification of the patent claiming the infringed product. See e.g., Stratoflex, Inc. v. Aeroquip Corp.,

713 F.2d 1530, 1541 (Fed. Cir. 1983); Hookless Fastener Co. v. G.E. Prentice Mnfng Co., 75 F.2d 264, 266 (2d Cir. 1935). Where, as here, a claim element of a product patent does not incorporate a manufacturing process, the process of manufacture is legally irrelevant to the comparison of the patented invention to the accused product for purposes of a literal infringement analysis. Cf. Southwall Techs., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1574-77 (Fed. Cir. 1995) (claim element requiring dielectric layer to be formed by a one-step reactive sputtering process not literally infringed by accused product, which formed a dielectric layer using a two-step process comprised of first depositing a metal layer and second oxidizing it). Thus, even if a product's manufacture begins with some critical element of a patented invention but the final product is something objectively different, as a matter of law, the objectively different end product cannot be transmuted back into a product in which the critical element is said to appear. Applera cites no authority to the contrary.

The Court construed the metal block structure of claims 17 and 33 of the '675 Patent to require a metal heat conducting block with at least one reaction well, which may be either a recess machined into the block or a plastic container which holds fluids and sits in a recess formed in the block, see Claim Construction [Doc. #715] at 6, 17, and claim 45 thereof to

require a metal heat conducting block with a plurality of reaction wells where well is limited to a recess machined into the metal block, see id. at 19. While the recess is not required to be in the top surface of the block but could be on its side or bottom, see id. at 6 and n.3, the ordinary meaning of a recess machined into a block (excluding for now the specially defined plastic container recess of the specification) connotes a solid body of metal with a receding or hollow place in its surface. See McHugh Decl. [Doc. #867] Ex. 1, 2.¹⁰

The declaration of Michael Finney with attached schematic of a sample holder, see Decl. of Michael Finney [Doc. #744] ¶ 7, Ex. E, and Margulies' description of MJ's sample holder with attached photograph, see Margulies' Decl. [Doc. #802] ¶ 13, Ex. 1, reveal that the metal structure of claims 17, 33, and 45 of the '675 Patent is not literally present in MJ's sample holder, however styled. The sample holder has metal tubular like protrusions or projections arising from a metal plate or platform and separated by air. It does not include the minimal shared limitations of the asserted claims of the '675 Patent: a recess machined into a block and by definition surrounded by metal. It also does not include the alternative plastic container recess limitation of

¹⁰ Attached to this ruling as Appendix C are three figures from the '610 Patent that illustrate the Court's conceptualization of the metal block structure of claims 17 and 33 of the '675 Patent where the reaction well is a recess machined into the block. In each case, the conceptualized block is designated as 12.

claims 17 and 33: the tubular protrusions are metal not plastic, do not hold fluids, see Declaration of Michael Finney [Doc. #744] ¶ 7 ("Sample containers are held in these metal tube holders."), and do not sit in a recess. Thus, any MJ thermal cycler model that uses a sample holder like the one depicted in the exhibits to Michael Finney's and Margulies' declarations does not literally infringe the asserted claims of the '675 Patent.¹¹

Margulies' expert opinion, which concludes that the metal block structure of claims 17, 33, and 45 is literally present in MJ's "sample holder" because the "sample holder" begins the manufacturing process as a metal block with holes drilled into its top surface before surrounding metal is cut away from the holes, see Margulies Decl. [Doc. #803] ¶¶ 13-14, is based on a legally irrelevant premise, comparing the metal block structure of the claimed invention with the starting point of the process by which the accused product is manufactured and not with the accused product itself, and thus cannot raise a genuine issue of material fact on literal infringement. Similarly, the subjective characterizations of MJ's "sample holder" as a block with or without wells by advertisements or Michael Finney do not alter the objective comparison required for literal infringement. While one could characterize the photograph of the sample holder

¹¹ Defendants admit that one MJ thermal cycler model, the PTC-100-60, is not sold with a sample holder but rather a "metal block with recesses for holding a plurality of containers." Decl. of Michael Finney [Doc. #744] ¶ 7.

attached to Margulies' declaration as a metal block with wells attached, that characterization does not make the sample holder the metal block structure of the asserted claims.

Defendants' written description of their 384-well block suggests a block with a plurality of recesses that cannot hold a plurality of individual sample tubes but only a device comprising some kind of unitary platform from which descend "indentations." Decl. of Michael Finney [Doc. #744] ¶ 8. Defendants submit no visual representation of the 384-well block. From the written description of the device, it is inferable that the limitations of the metal block structure of claims 17 and 33 may be literally present in the 384-well block. While the description is silent as to the composition of this block, it suggests inclusion of at least one recess machined into the block. Similarly, with respect to claim 45, the description suggests a block (composition unknown) with a plurality of recesses for a plurality of containers as there is nothing in the Court's claim construction that would necessarily preclude "the plurality of containers" being connected in some manner and thus from appearing in "indentations" descending from a unitary platform. Accordingly, summary judgment with respect to the 384-well block is inappropriate.

As details concerning the manufacture of MJ's sample holder are not legally relevant to the literal infringement analysis,

Applera does not satisfy the requirement for relief under Fed. R. Civ. P. 56(f) that it describe how discovery on defendants' manufacturing of their sample holders is reasonably expected to raise a genuine issue of material fact. Further, Margulies' declaration and attached expert report reveal that, during discovery, he had ample opportunity to inspect and opine on whether MJ's thermal cyclers included the metal block structure of the asserted claims of the '675 Patent, see e.g., Margulies Decl. [Doc. #802] ¶11, Ex. 2 at 2-3, 22, 26, and Applera was aware that defendants contended that their thermal cyclers did not infringe those claims.

B. Infringement Under the Doctrine of Equivalents and Prosecution History Estoppel with respect to Claim 45 of the '675 Patent

1. Parties' Arguments

Defendants do not move against claims 17 and 33 of the '675 Patent for judgment of non-infringement under the doctrine of equivalents. However, they contend that during prosecution, Applera argued claim 45 was patentable over prior art because the prior art did not employ a metal block with a plurality of receptacles for supporting a plurality of containers, and therefore, under the doctrine of prosecution history estoppel discussed in Festo, 535 U.S. 722, Applera is barred from arguing claim 45 covers, under the doctrine of equivalents, anything more

than the claimed metal block structure. In support, defendants cite to the reexamination history of the '675 Patent, See Diebner Decl. [Doc. #744] Ex. J at 17-19, which is discussed below.

In opposition, plaintiffs argue that Deering Precision Instruments, L.L.C. v. Vector Distributions Sys., Inc., 347 F.3d 1314, 1324-27 (Fed. Cir. 2003) clarified that Festo, 535 U.S. 722, applies only to prosecution history estoppel based on amendments, not arguments, made during prosecution, and that, as claim 45 of the '675 Patent was not amended or otherwise altered by reexamination, Festo is inapplicable and argument-based estoppel applies. Plaintiffs maintain that Deering requires a clear and unmistakable surrender of subject matter during prosecution for an argument-based estoppel to apply, and that the arguments pointed to by defendants with respect to the Omron prior art do not rise to this level because they do not distinguish the Omron controller on the basis of the particular claimed metal block. Plaintiffs submit the European patent specification of the Omron controller, see Hoeffner Decl. [Doc. #801] Ex. 14, and the declaration of Margulies, see Margulies Decl. [Doc. #803] ¶¶ 21, 22 and Ex. 2, to demonstrate that the Omron controller was in fact simply a temperature controller with no means for heating and cooling at all, much less one comprised of a metal block. Plaintiffs further assert that the patentee did not distinguish the claimed metal block with multiple

recesses from blocks similar to MJ's sample holders or MJ's 384-well block. Thus, conclude plaintiffs, defendants have failed to identify a clear and unmistakable surrender of subject matter that would bar Applera from asserting equivalency with respect to claim 45's metal block structure.

In reply, MJ disputes Applera's reading of Deering, arguing that it stands for the opposite proposition, namely, that it makes no distinction between amendment and argument-based estoppel as evidenced by its citation to Elkay Mfg. Co. v. Ebco Mfg. Co., 192 F.3d 973, 979 (Fed. Cir. 1999) and accompanying explanatory parenthetical, "Elkay ... (holding that the scope of coverage of the claims may change if a patentee has 'relinquished [a] potential claim construction in an amendment to the claim or in an argument to overcome or distinguish a reference')." Deering, 347 F.3d at 1324-25. Defendants further assert that requiring them to identify unmistakable surrender of subject matter violates the principles of Warner Jenkinson, 520 U.S. 17, and Festo, 535 U.S. 722, which place the burden on the patentee, not the accused infringer, to explain prosecution history and thereby to avoid estoppel. In the alternative, assuming arguendo that argument-based estoppel is something different than amendment-based estoppel and requires a clear and unmistakable surrender of subject matter, defendants contend the references they cited in the reexamination history of the '675 Patent meet

that test and clearly reveal that Applera relied on the metal block with multiple recesses to distinguish claim 45 over prior art. In the absence of an alternate explanation from Applera, defendants conclude, the guiding principles of Warner and Festo bar Applera from arguing the scope of claim 45 covers more than a metal block with multiple recesses.

2. Discussion

Applera is correct that Deering distinguishes between amendment-based estoppel, to which the Supreme Court's decision in Festo, 535 U.S. 722 and the Federal Circuit's en banc opinion on remand in Festo, 344 F.3d 1359 apply, see Deering, 347 F.3d at 1324-26, and argument-based estoppel, which is subject to a different standard, a clear and unmistakable surrender of subject matter, see id. at 1324, 1326-27.¹² Contrary to defendants'

¹² The language used by the Supreme Court in Festo supports the conclusion that the Supreme Court analyzed narrowing amendments not arguments; for example:

The doctrine of equivalents allows the patentee to claim those insubstantial alterations that were not captured in drafting the original patent claim but which could be created through trivial changes. When, however, the patentee originally claimed the subject matter alleged to infringe but then narrowed the claim in response to a rejection, he may not argue that the surrendered territory comprised unforeseen subject matter that should be deemed equivalent to the literal claims of the issued patent. On the contrary, 'by amendment [the patentee] recognized and emphasized the difference between the two phrases[,] ... and [t]he difference which [the patentee] thus disclaimed must be regarded as material.'

A rejection indicates that the patent examiner does not believe the original claim could be patented. While the patentee has the right to appeal, his decision to forgo an appeal and submit an amended claim is taken as a concession that the invention as patented does not reach as far as the original claim.

reading, Deering's citation to Elkay and accompanying explanatory parenthetical merely acknowledge that two theories of prosecution history estoppel, amendment-based and argument-based, exist that can change the scope of coverage of claims but do not purport to create a uniform doctrinal standard applicable to both.

However, an allowed and unamended claim is still analyzed under amendment-based estoppel doctrine where the unamended claim contains a limitation that was allowed as originally filed based on the amending addition of the same limitation in a separate claim. See Deering, 347 F.3d at 1326; Builders Concrete, Inc. v. Bremerton Concrete Prods. Co., 757 F.2d 255, 258-60 (Fed. Cir. 1985). Here, claim 45, which was not amended during reexamination, contained the limitation,

means for heating and cooling said container to or at any of a plurality of temperatures and having a control input for receiving a control signal controlling whether said container is heated or cooled, wherein said means for heating and cooling said container includes a metal block supporting said container and wherein said metal block further comprise[s] a plurality of receptacles for supporting a plurality of containers.

Claim Construction [Doc. #715] at 18. Claim 22 of the '675 Patent, which was rejected pursuant to 35 U.S.C. § 103 as obvious over "the combination of the Thomas Scientific Manual in combination with European Patent Application '408 and the Techne temperature Programmer TP-16," Diebner Decl. [Doc. #744] Ex. J

Festo, 535 U.S. at 733-34 (emphasis added) (quoting Exhibit Supply Co. v. Ace Patents Corp., 315 U.S. 126, 146-47 (1942)).

at 14, originally read,

means for heating and cooling a heat-conducting container for holding a reaction mixture to or at any of a plurality of temperatures and having a control input for receiving a control signal controlling whether said container is heated or cooled....

Id. at 3. During reexamination, claim 22 was amended with a limitation that is essentially identical to a limitation found in claim 45, thus reading

means for heating and cooling a plurality of heat-conducting containers for holding a reaction mixture to or at any of a plurality of temperatures, said means including a heat-conducting metal block having a top surface and a plurality of recesses communicating with said top surface for supporting said containers and said means having a control input for receiving a control signal controlling whether said container is heated or cooled....

Id. (amendments underlined). In the "Detailed Argument" section of the reexamination history, the patent owner argued against the tenability of the rejection of claim 22 on the basis of the combination of the Haake-Buchler Vortex Evaporator with European Patent Application '408 and the Techne temperature Programmer TP-16. See id. at 14-15. In addition, the patent owner discussed Saiki et. al., Science 230:1350-1354 (20 December 1985), European patent application 0 164 054 (11 December 1985), and Saiki et. al., U.S. Patent No. 4,683,194, see id. at 15-17, stating,

However, treating these references as *prima facie* prior art, it is not seen that either can be used to fill the gap in the current rejection or to construct another combination of references that renders the claims now presented *prima facie* obvious.

Fundamentally, each of these references discloses only a single PCR amplification protocol. The protocols are manual. They are similar in that both utilize two heat blocks, one at high temperature for denaturation or double-stranded DNA and the other at lower temperature for primer annealing/extension. The lone example in the '194 patent states that after heating, the samples were transferred "immediately" to the other block. There is no suggestion in the '194 patent that would lead an instrument engineer to design an automated instrument or that would lead a biochemist to request one

While the Saiki et al. article does suggest that the method it discloses could be automated and does state a hope that PCR might have general application, the information presented is still insufficient to cause a biochemist of ordinary skill to request an instrument.... Further, assuming *arguendo* that one were prompted to automate, the limited process information disclosed would lead one to a robotics implementation mimicking the disclosed protocol....

Id. at 16. Against this backdrop are the references relied on by defendants:

Original claims 2-10 (claim 2 is independent) are not rejected or amended. They all require a non-robotic, block thermal cyler (a metal block with multiple recesses, cooling channels in the block and means to heat the block).

...

Original claims 22-25 (claim 22 is independent) are rejected. Independent claim 22 is amended. Like claims 2-10, claims 22-25 now require a non-robotic thermal cyler (the means for heating and cooling includes a metal block with multiple recesses; that is a single metal block serves both for heating and cooling).

...

Claim 45 is not rejected or amended. It remains despite the cancellation of claims 40-44, from which it depends. MPEP 2260.01. Like claims 2-10 and 22-25, claim 45 requires a non-robotics, block thermal cyler.

See Diebner Decl. [Doc. #744] Ex. J at 17-19 (emphasis in

original). It is thus clear that the allowance of claim 22 depended on an amendment narrowing the heating and cooling means to avoid potential obviousness problems over the enumerated prior art. Since unamended claim 45 contains essentially the same limitation added to claim 22 for patentability, claim 22 had only one limitation added during reexamination, and the reexamination history explicitly argues claim 45's patentability on the same basis as claim 22, "[amendment-based] prosecution history estoppel presumptively applies equally to [claim 45]." Deering, 347 F.3d at 1326. "'To hold otherwise would be to exalt form over substance and distort the logic of this jurisprudence, which serves as an effective and useful guide to the understanding of patent claims.'" Id. (quoting Builders Concrete, 757 F.3d at 260).

With respect to amendment-based estoppel, a narrowing amendment made to satisfy any requirement of the Patent Act, including 35 U.S.C. § 103, may give rise to an estoppel. See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 736 (2002).¹³ However,

There is no reason why a narrowing amendment should be deemed to relinquish equivalents unforeseeable at the time of the amendment and beyond a fair interpretation of what

¹³ Because, as noted above, the prosecution history clearly demonstrates that a narrowing amendment was made to the literal scope of claim 22 (and by operation of law to claim 45), and that such narrowing was for patentability over prior art, the Warner-Jenkinson presumption (that a narrowing amendment was made for a substantial reason relating to patentability where the prosecution history record reveals no reason for it) has no application here.

was surrendered. Nor is there any call to foreclose claims of equivalence for aspects of the invention that have only a peripheral relation to the reason the amendment was submitted.

Id. at 738. Thus, while "a patentee's decision to narrow his claims through amendment may be presumed to be a general disclaimer of the territory between the original claim and the amended claim," id. at 740, "[t]here are some cases ... where the amendment cannot reasonably be viewed as surrendering a particular equivalent." Id.

The equivalent may have been unforeseeable at the time of the application; the rationale underlying the amendment may bear no more than a tangential relation to the equivalent in question; or there may be some other reason suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question. In those cases the patentee can overcome the presumption that prosecution history estoppel bars a finding of equivalence.

Id. at 740-41. "[T]he patentee should bear the burden of showing that the amendment does not surrender the particular equivalent in question." Id. at 739. The second way of overcoming the presumption, tangentialness, asks

whether the reason for the narrowing amendment was peripheral, or not directly relevant, to the alleged equivalent. ... [A]n amendment made to avoid prior art that contains the equivalent in question is not tangential; it is central to allowance of the claim. ... [T]he inquiry into whether a patentee can rebut the Festo presumption under the 'tangential' criterion focuses on the patentee's objectively apparent reason for the narrowing amendment. ... [T]hat reason should be discernable from the prosecution history record, if the public notice function of a patent and its prosecution history is to have significance. ... Moreover, whether an amendment was merely tangential to an alleged equivalent necessarily requires focus on the context in which the amendment was made; hence the resort to the

prosecution history. Thus, whether the patentee has established a merely tangential reason for a narrowing amendment is for the court to determine from the prosecution history record without the introduction of additional evidence, except, when necessary, testimony from those skilled in the art as to the interpretation of that record.

Festo, 344 F.3d at 1369-70.

As discussed above, claim 22 originally recited a means for heating and cooling a single container where the means had a control input. After being rejected as obvious in light of prior art, claim 22 was amended during reexamination to add the limitation that the means for heating and cooling included a heat-conducting metal block having a top surface and a plurality of recesses communicating with the top surface for supporting a plurality of containers. Because the narrowing amendment was made for a reason of patentability, the patent owner presumptively disclaimed the entire territory between the original limitation and the amended one, that is, any heating and cooling means that does not have a heat-conducting metal block having a top surface and a plurality of recesses communicating with the top surface for supporting a plurality of containers. With respect to claim 45, which does not contain the top surface limitation added to claim 22, the disclaimed territory is slightly narrower, namely, any heating and cooling means that does not have a heat-conducting metal block with a plurality of recesses for a plurality of containers. Inasmuch as MJ's sample holder does not have recesses machined into a metal block, the

burden is on Applera to show that the metal block with recesses amendment did not surrender a metal plate with tubular protrusions.

Applera has not attempted to meet this burden. First, it incorrectly argued, in the Court's view, for an argument-based estoppel analysis, attempting thereby to steer away from one under Festo. Second, to the extent Applera's arguments regarding the Omron controller, i.e., European Patent Application '408, and the patent owner's failure to distinguish the claimed metal block with multiple recesses from blocks similar to MJ's sample holders can be considered arguments rebutting the Festo presumption, they constitute arguments under the second rebuttal criterion, tangentialness,¹⁴ and the Court finds them unavailing. The patent owner did not add the metal block with recesses limitation to overcome the Omron controller but to overcome any potential rejection based on Saiki et. al., Science 230:1350-1354 (20 December 1985), European patent application 0 164 054 (11 December 1985), and/or Saiki et. al., U.S. Patent No. 4,683,194. The patent owner argued that the office action rejection of claim

¹⁴ Applera's arguments are directed towards explaining that the amendments were unconcerned with structures like MJ's accused sample holder or any other particular claimed metal block and thus fit neatly into the second criterion regarding the rationale underlying the narrowing amendment vis a vis the equivalent in question. Applera does not attempt to show that MJ's sample holder would have been unforeseeable at the time of the amendment (for example, because it represents later developed technology) or establish some other reason the patent owner could not reasonably have been expected to have described MJ's sample holders, and thus cannot be said to have attempted to rebut the Festo presumption under the first or third method permitted for doing so. See generally Festo, 344 F.3d at 1368-70.

22 on the basis of the combination of Thomas Scientific Manual, the Omron controller, and the Techne TP-16 was untenable.

The prosecution history clearly explains the addition of a heat conducting metal block to claim 22. The patent owner, although not conceding the necessity of doing so, distinguished away from the above-cited prior art on the grounds that those references at best envisioned an automated process requiring two blocks with some kind of robotics arm or other robotics device for transferring between the two. The metal block amendment clarified that the claimed invention could accomplish both heating and cooling with one block and therefore without the necessity for any robotics implementation. This is made explicit in the patent owner's underlining when explaining the claim 22 amendments. See Diebner Decl. [Doc. #744] Ex. J at 18 ("... claims 22-25 now require a non-robotic thermal cycler (the means for heating and cooling includes a metal block....") (emphasis in original). Thus, if the metal block had been the only addition to claim 22, the disclaimed territory would have included any heating and cooling means that does not utilize a unitary heating and cooling means, and MJ's sample holder might still have been in play. However, claim 22 was also amended to specify that the metal block include a plurality of recesses. While the prosecution history seems to equate the dual metal blocks of a potential robotics heating and cooling means with blocks

containing a plurality of recesses, see Diebner Decl. [Doc. #744] Ex. J at 17 ("[The claims] require a non-robotic, block thermal cyclers (a metal block with multiple recesses, cooling channels in the block and means to heat the block).), the prosecution history contains no explanation for the necessity of adding a plurality of recesses limitation versus merely a single metal block one. Therefore, absent a reason for the "recesses" amendment, and because Applera offers none, Applera has not satisfied its burden to show that the rationale underlying the recess amendment was only tangential to MJ's sample holder.¹⁵

Accordingly, prosecution history estoppel applies and the metal structure of claim 45 cannot be infringed under the doctrine of equivalents by any heating and cooling means that does not have a metal block with a plurality of recesses. MJ's sample holder does not include a recess machined into a block and MJ is therefore entitled to summary judgment on Applera's claim that MJ's thermal cyclers utilizing sample holders infringe claim 45 of the '675 Patent under the doctrine of equivalents.

3. Inducement of Infringement under 35 U.S.C. § 271(b) and Claim 45 of the '675 Patent

Because the Court has concluded that defendants are entitled

¹⁵ Applera's failure to offer any explanation other than its rejected Deering argument includes a failure to establish a tangential reason for the narrowing amendment based on testimony from those skilled in the art as to the interpretation of the prosecution history record. See Festo, 344 F.3d at 1369-70.

to summary judgment on Applera's claims that MJ's thermal cyclers utilizing a sample holder directly infringe (literally and under the doctrine of equivalents) claim 45 of the '675 Patent, defendants are entitled to summary judgment on Applera's claim that defendants induce end users to infringe claim 45 with respect to the distribution of any MJ thermal cyler that utilizes a sample holder because an end user would not be able to reconfigure the sample holder into a block with recesses machined into it without destroying the sample holder or its utility. See 35 U.S.C. § 271(b) ("Whoever actively induces infringement of a patent shall be liable as an infringer."); see e.g., Standard Havens Products v. Gencor Indus., 953 F.2d 1360, 1374 (Fed. Cir. 1991) ("[T]here can be no inducement of infringement ... under 35 U.S.C. § 271(b) ... in the absence of direct infringement.").

IV. The '493 Patent: "variable temperature heating and cooling system, which includes a metal block having a plurality of recesses..."

The Court's analysis of the means for heating and cooling of claims 17, 33, and 45 of the '675 Patent controls the parties' dispute regarding whether the variable temperature heating and cooling system of claim 16 of the '493 Patent, which the Court construed to include a metal block having a plurality of recesses and a peltier device, can be literally infringed by defendants'

thermal cyclers that employ a sample holder.¹⁶ Any MJ thermal cycler model that uses a sample holder like the one depicted in the exhibits to Michael Finney's and Margulies' declarations, see Decl. of Michael Finney [Doc. #744] ¶ 7, Ex. E; see Margulies' Decl. [Doc. #802] ¶ 13, Ex. 1, does not as a matter of law literally infringe claim 16 of the '493 Patent.¹⁷ The rest of defendants' thermal cycler models, including the PTC-100-60 and any model using a 384-well block are not excluded from a potential finding of literal infringement on the grounds of claim 16's metal block structure.

V. The '610 Patent

A. Defendants' Motion and Plaintiffs' Claims of Infringement under the Doctrine of Equivalents

Defendants seek summary judgment declaring that they do not literally infringe asserted claims 1, 44, 158, 160, 161, and 163 of the '610 Patent, and do not induce others to do so. Defendants do not seek summary judgment on plaintiffs' claims of infringement and induced infringement under the doctrine of equivalents but vigorously, albeit incorrectly, argue that plaintiffs have waived all such claims with respect to the

¹⁶ Both parties make the same arguments regarding claim 16 of the '493 Patent as they did regarding claims 17, 33, and 45 of the '675 Patent.

¹⁷ Defendants admit that whether claim 16's metal block structure is present in their sample holder under the doctrine of equivalents constitutes a genuine issue of material fact for a jury's resolution. See Defs.' Mem. [Doc. #738] at 9.

'610 Patent. See Mem. in Supp. [Doc. #736] at 1, 6, 12, 13; Reply [Doc. #866] at 9.

Defendants base their waiver argument on an e-mail received from counsel for Applera dated December 13, 2003, in which Applera's counsel answered "Literal Infringement" in response to questions asked by defense counsel in an earlier electronic mail.¹⁸ Defendants claim that this electronic mail between counsel constitutes a waiver of plaintiffs' infringement claims under the doctrine of equivalents. See e.g. Am. Compl. [Doc. #500] ¶¶ 32, 35, 37. Plaintiffs accuse defendants of "brazenly

¹⁸ "Your letter from yesterday did not address the questions we raised at our meeting which do not require any sort of preliminary response or documents from us. According to my notes, most of these questions related to the '610 patent. In particular:

1. We need to know if Applera is claiming literal infringement and/or infringement by equivalents of Claims 1, 44 and 158 of the '610 patent, i.e.,
 - a. Is Applera claiming that MJ's thermal cyclers literally use a film heater or a fluid/gas flow heating system?
 - b. Is Applera claiming that MJ's thermal cyclers literally use a fluid flow cooling system having cooling channels in the block?
 - c. Is Applera claiming that MJ's thermal cyclers use the same algorithm as the one claimed?
2. Second, we need to know if Applera is claiming literal infringement and/or infringement by equivalents of Claims 160, 162, and 163 of '610, i.e.,
 - a. Is Applera claiming that MJ's dome caps and flat caps are 'resiliently deformable'?
 - b. Is Applera claiming that any other forms of sealing containers utilized on MJ thermal cyclers fall within the meaning of 'resiliently deformable' caps?

Diebner Decl. [Doc. #744] Ex. C.

mischaracteriz[ing]" discussions between counsel, asserting that the answers provided by counsel were in response to defendants' inquiry at a December 5, 2003 meeting regarding whether Applera intended to pursue a literal infringement claim against the '610 Patent and that the reply "literal infringement" merely followed up with an affirmative answer.

The Court finds no waiver. First, defendants point to no authority for finding a waiver on these facts, particularly where the claimed waiver would eliminate so late in the case explicitly-pled claims in plaintiffs' amended complaint. Second, the language of the December 13, 2003 electronic mail reveals no waiver. The heading of both questions apprizes Applera that defendants sought to determine whether Applera claims "literal infringement and/or infringement by equivalents" of the asserted claims of the '610 Patent. The actual questions, however, subsequently address only whether Applera claims literal infringement with respect to different claim elements or parts thereof, but critically do not ask whether Applera also claims infringement under the doctrine of equivalents or has dropped such claim/s. The electronic mail is thus easily interpreted as Applera appears to have done, namely, as assuming Applera maintained its doctrine of equivalents claims and merely seeking confirmation, post the Court's claim construction, of Applera's intent with respect to claims of literal infringement. By no

measure can such an equivocal communication provide the requisite clarity required for a waiver, particularly one of this magnitude.

B. Claims 1, 44, 158: "a sample block having at least one well for said at least one sample tube"

The Court construed the well of the sample block limitation of claims 1, 44, and 158 of the '610 Patent as a recess below the top surface of the block. See Claim Construction [Doc. #715] at 27-29. Defendants maintain that, as construed, the sample block limitation of the asserted claims does not appear literally in their thermal cyclers. In support, defendants make the same arguments and submit the same evidence set forth above in connection with the means for heating and cooling limitation of claims 17, 33, and 45 of the '675 Patent. Likewise, plaintiffs oppose with the same arguments and supporting evidence offered in opposition to that analysis. Accordingly, the Court's infringement analysis resolving the parties' dispute over the means for heating and cooling of the asserted claims of the '675 Patent controls here. The sample block structure of claims 1, 44, and 158 of the '610 Patent is not literally present in defendants' thermal cyclers that employ a sample holder, and therefore, as a matter of law, any MJ thermal cycler model that uses a sample holder like the one depicted in the exhibits to Michael Finney's and Margulies' declarations, see Decl. of

Michael Finney [Doc. #744] ¶ 7, Ex. E; see Margulies' Decl. [Doc. #802] ¶ 13, Ex. 1, does not literally infringe those claims. Defendants' other thermal cyclers, including the PTC-100-60 and thermal cyclers employing a 384 well block, are not precluded from a potential finding of literal infringement on the basis of the sample block structure of claims 1, 44, and 158.

C. Claims 160, 161, and 163: "metal block having an array of tapered wells in its top surface"

The Court construed the metal block limitation of claims 160, 161, and 163 as requiring wells recessed below the top surface of the block. See Claim Construction [Doc. #715] at 38. Defendants maintain that, as construed, the metal block limitation of the asserted claims does not appear literally in their thermal cyclers. In support, defendants make the same arguments and submit the same evidence proffered in connection with the means for heating and cooling limitation of claims 17, 33, and 45 of the '675 Patent. Likewise, plaintiffs oppose with the same arguments and supporting evidence offered in opposition to that analysis. Accordingly, the Court's infringement analysis resolving the parties' dispute over the means for heating and cooling of the asserted claims of the '675 Patent controls here. The metal block structure of claims 160, 161 and 163 of the '610 Patent is not literally present in defendants' thermal cyclers that employ a sample holder, and therefore, as a matter of law,

any MJ thermal cyclers model that uses a sample holder like the one depicted in the exhibits to Michael Finney's and Margulies' declarations, see Decl. of Michael Finney [Doc. #744] ¶ 7, Ex. E; see Margulies' Decl. [Doc. #802] ¶ 13, Ex. 1, does not literally infringe those claims. Defendants' other thermal cyclers, including the PTC-100-60 and thermal cyclers employing a 384 well block, are not precluded from a potential finding of literal infringement on the basis of the metal block structure of claims 160, 161, and 163.

VI. Conclusion

As set forth above, Defendants' Motions [Doc. ##730, 732, 737] for Summary Judgment are GRANTED in PART and DENIED in PART. Plaintiffs' motion [Doc. #817] is DENIED as to further discovery on, or preclusion of, the sample holder defense.

It is so ordered.

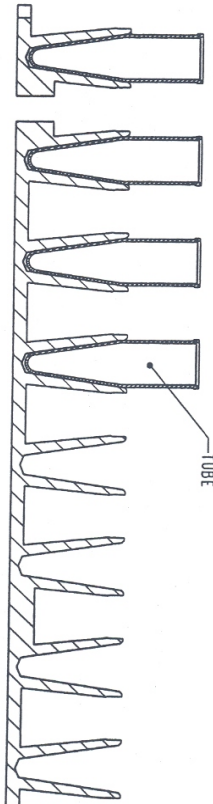
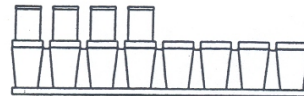
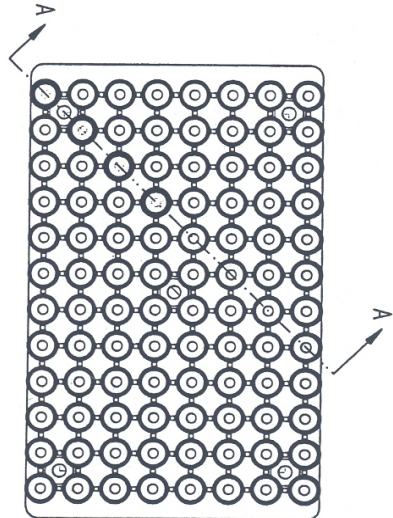
/s/

U.S.D.J. Janet Bond Arterton

Dated at New Haven, Connecticut this 12th day of February 2004.

APPENDIX A

THIS DRAWING IS THE PROPERTY OF M.J. RESEARCH INC. IT IS TO BE USED ONLY FOR THE PROJECT AND PURPOSE SPECIFIED HEREON. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF M.J. RESEARCH INC.



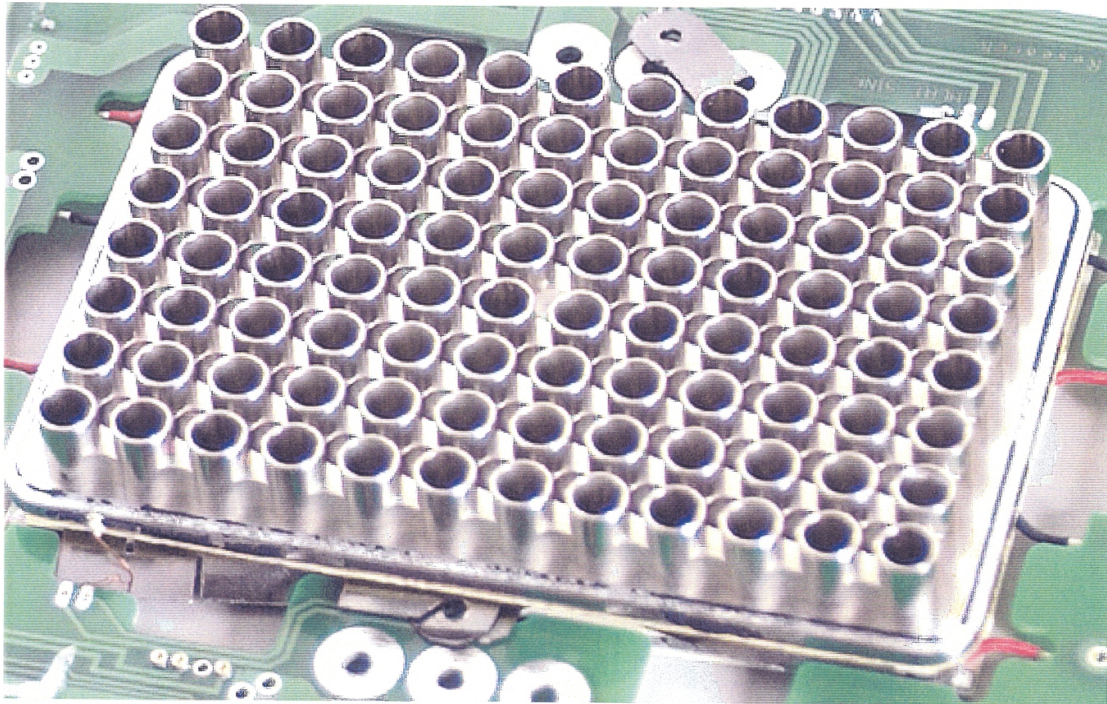
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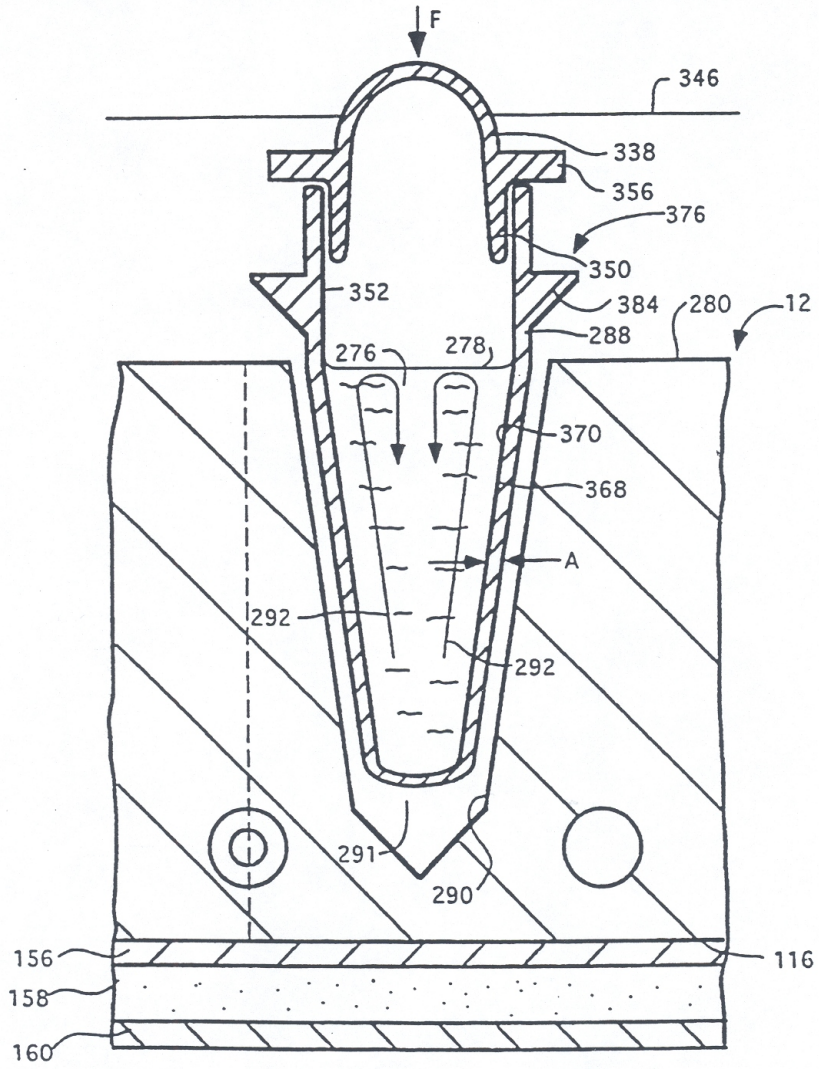
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UNLESS OTHERWISE SPECIFIED	PROJECT NO:	DATE
TOLERANCES ARE	APPROVALS	
FRACTIONS ± 0.1	DRN T.MILDR	11/23/03
DECIMALS ± 0.03	CHK	
ANGLES ± 0.5	ENG	
SURFACE ROUGHNESS	MFG	
✓ DIMENSIONS ARE IN MILLIMETERS	ISS	

MJ Research Inc. 398 Lincoln Street Baltimore, MD 21231	DWG TITLE	REV
	PTC-100 96gV	
	SAMPLE BLOCK	
	DWG NO. 10390-08	
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APPENDIX B





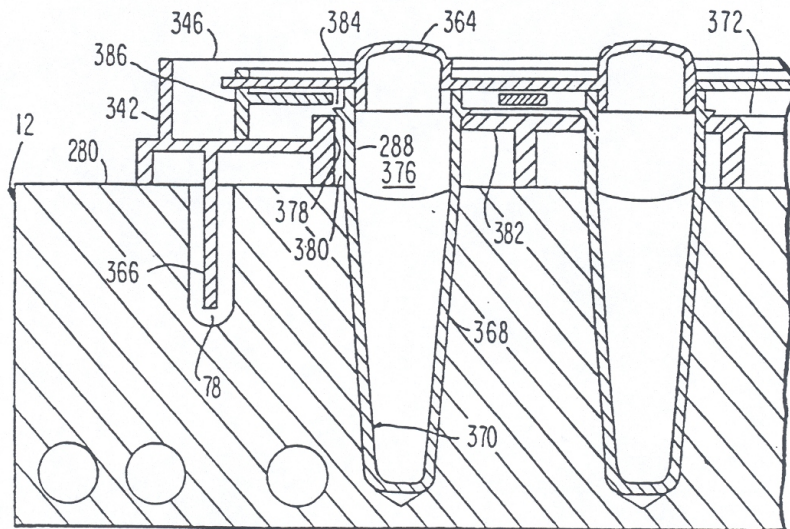


FIG. 21A

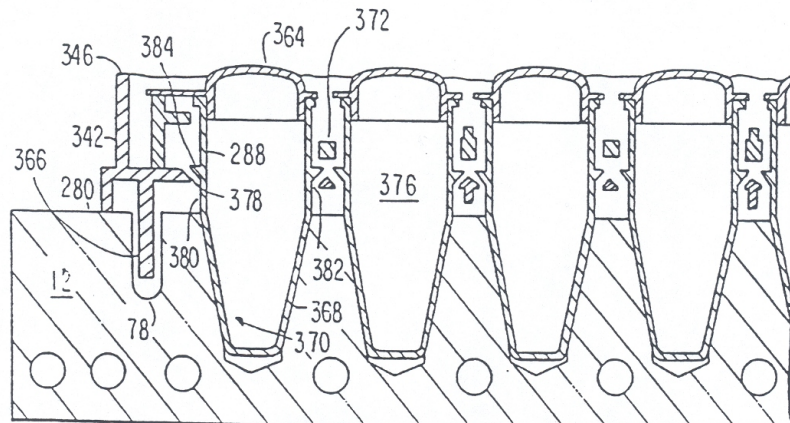


FIG. 21B