

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF MARYLAND

	:	
PULSE MEDICAL INSTRUMENTS, INC.	:	
v.	:	Civil Action No. DKC 07-1388
DRUG IMPAIRMENT DETECTION SERVICES, INC.	:	
	:	

**MEMORANDUM OPINION**

Presently pending and ready for resolution in this patent infringement case is Plaintiff's motion for partial summary judgment and preliminary injunctive relief. (Paper 104). A hearing was held on the summary judgment and preliminary injunction issues on November 24, 2009 and Plaintiff's request for a preliminary injunction was subsequently denied. No further hearing is deemed necessary. For the reasons that follow, Plaintiff's motion for partial summary judgment will be granted.

**I. Background**

Plaintiff Pulse Medical Instruments, Inc. ("PMI") was organized in 1988 to develop and commercialize technology for measuring human eye responses to screen subjects for drug, alcohol, and sleep deprivation-related impairments. On June 6, 1995, Plaintiff became the exclusive holder of U.S. Patent

5,422,690 ("the '690 Patent"), known as a Fitness Impairment Tester. The '690 Patent implements:

a self-administered screening test to determine whether a subject is physically impaired. . . . By superposing two different colored lights as viewed through an eyepiece, the subject aligns his or her pupil on the optical axis of the pupil imaging optics, which focuses an image of the subject's pupil on an image plane. . . . Light stimuli are provided to cause the pupil to change size and the eye to move. Pupil diameter measurements are made of the image of the subject's pupil in response to on axis light stimuli.

(Abstract, '690 Patent). The '690 Patent has been used in a variety of safety related industries, such as in coal mining to screen workers operating heavy equipment and in the criminal justice system to screen subjects for drug and alcohol use.

On or about June 18, 2004, Plaintiff and Defendant, Drug Impairment Detection Services, Inc. ("DIDS") entered into an agreement whereby Plaintiff agreed to custom build drug impairment detection systems, known as FIT 2000 Screeners ("Screeners"). Defendant agreed to distribute these Screeners under the name "PassPoint."

Under the terms of the agreement, Defendant retained ownership of the Screeners and leased them to its customers, with charges made on a pay-for-service basis. Defendant was required to pay Plaintiff a fixed purchase price for each Screener, plus a 10% royalty for service fees that Defendant

charged to its customers. Defendant purchased its last Screener from Plaintiff on or about October 2004.

On or about December 2005, Defendant began distributing its own substance abuse screener under the modified name PassPoint.net. On January 27, 2006, Plaintiff sent a letter to Defendant that it was terminating their agreement. On May 25, 2007, Plaintiff filed a complaint against Defendant for patent infringement, alleging that Plaintiff's '690 Patent is infringed by Defendant's PassPoint.net product line. (Paper 1). Defendant filed an answer and counterclaims on October 15, 2008. (Paper 8). On May 12, 2008, Defendant filed a motion for summary judgment for the invalidity of Claim 9 of the '690 Patent. (Paper 46). The court held a *Markman* claim construction hearing for Claim 9 on October 27, 2008. On March 20, 2009, the court issued a memorandum opinion on the construction of Claim 9 and denied Defendant's motion for summary judgment. (Paper 87).

After a period of additional discovery, Plaintiff filed a motion for partial summary judgment on September 4, 2009, alleging that the "original" version of the Passpoint.net machine infringes Claims 9 and 10 of the '690 Patent. (Paper 104). Plaintiff argues that the "original" version of the machine infringes Claim 9 because the machine allegedly performs step (a) of Claim 9 by illuminating a subject's pupil

and focusing an image of the subject's pupil on an image plane. Plaintiff alleges that the "original" machine infringes Claim 10 because Claim 9 is incorporated into Claim 10.

Claim 9 of the '690 Patent provides:

9. A method of testing fitness impairment of a subject comprising the steps of:

(a) illuminating a subject's pupil and focusing an image of the subject's pupil on an image plane;

(b) tracking movements of the subject's eye in response to moving light stimuli;

(c) generating measures of one or more parameters  $P_i$  of the subject's eye as a function of time;

(d) storing baseline data for the subject in a database;

(e) controlling light stimulus means

(f) and receiving said measures of said parameters  $P_i$ ;

(g) accessing said baseline data for the subject; and

(h) providing an output indicative of a deviation of current measurements of said parameters  $P_i$  from said baseline data.<sup>1</sup>

Claim 10 of the '690 Patent states:

10. The method of measuring fitness impairment of a subject as recited in claim 9 wherein the step of providing an output

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<sup>1</sup> The original language of Claim 9 does not label the steps a-h, as seen above. The court has assigned each step with a corresponding letter in order easily to identify the relevant step in question.

indicative of a deviation of said current measurements from said baseline data comprises the steps of:

computing a mean  $\mu_i$  for each measured parameter  $P_i$ ;

computing a standard deviation of  $a_i$  for each measured parameter  $P_i$ ; and

computing an Index as:

$$\text{Index} = \sum_{i=1}^n \left( \frac{P_i - \mu_i}{\sigma_i} \right)^2,$$

where  $n$  is the number of parameters  $P_i$ , a large value of Index indicating that measured parameter values are very different than those of the baseline.

(Paper 1, Attach. 1, at col. 17-18).

After a *Markman* hearing, the court made the following construction of Claim 9, step (a), "illuminating a subject's pupil and focusing an image of the subject's pupil on an image plane":

causing light to reach the pupil portion of the eye of a person tested and using equipment such as a lens to provide an image of the pupil to an image plane such as the image plane of a camera, for use in later steps of Claim 9.

(Paper 87, at 13, 18). The court noted, "illuminating means causing light to shine on something, here the pupil of the eye."

(*Id.* at 16).

## II. Summary Judgment

### A. Standard of Review

Plaintiff has moved for partial summary judgment pursuant to Federal Rules of Civil Procedure 56 and 65. It is well established that a motion for summary judgment will be granted only if there exists no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law. See Fed.R.Civ.P 56(f); *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986); *Emmett v. Johnson*, 532 F.3d 291, 297 (4<sup>th</sup> Cir. 2008). In other words, if there clearly exists factual issues "that properly can be resolved only by a finder of fact because they may reasonably be resolved in favor of either party," summary judgment is inappropriate. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 250 (1986); *JKC Holding Co. LLC v. Washington Sports Ventures, Inc.*, 264 F.3d 459, 465 (4<sup>th</sup> Cir. 2001). The grant of summary judgment "should be employed with great caution and is not ordinarily appropriate for the disposition of a patent case." *Technitrol, Inc. v. Control Data Corp.*, 550 F.2d 992, 996 (4<sup>th</sup> Cir. 1977)(citing *Morpul, Inc. v. Glen Raven*, 357 F.2d 732, 736 (4<sup>th</sup> Cir. 1966)); *Long v. Arkansas Foundry Co.*, 247 F.2d 366, 369 (8<sup>th</sup> Cir. 1957). "A district court should approach a motion for summary judgment on the fact issue of infringement with great care." *Amhil Enter. Ltd. v. Wawa, Inc.*, 81 F.3d 1554, 1557 (Fed. Cir. 1996). Summary judgment is appropriate in

patent cases as in other civil actions as long as there is no genuine issue of material fact. *Amhil*, 81 F.3d at 1557-558.

When ruling on a motion for summary judgment, the court must construe the facts alleged in the light most favorable to the party opposing the motion. See *Scott v. Harris*, 550 U.S. 372, 378 (2007); *Emmett*, 532 F.3d at 297. A party who bears the burden of proof on a particular claim must factually support each element of his or her claim. *Celotex Corp.*, 477 U.S. at 323. "[A] complete failure of proof concerning an essential element . . . necessarily renders all other facts immaterial." *Id.* Thus, on those issues on which the nonmoving party will have the burden of proof, it is his or her responsibility to confront the motion for summary judgment with an affidavit or other similar evidence in order to show the existence of a genuine issue for trial. See *Anderson*, 477 U.S. at 254; *Celotex Corp.*, 477 U.S. at 324. "A mere scintilla of proof, however, will not suffice to prevent summary judgment." *Peters v. Jenney*, 327 F.3d 307, 314 (4<sup>th</sup> Cir. 2003). There must be "sufficient evidence favoring the nonmoving party for a jury to return a verdict for that party." *Anderson*, 477 U.S. at 249. "If the evidence is merely colorable, or is not significantly probative, summary judgment may be granted." *Id.* at 249-50 (citations omitted).

## **B. Analysis**

A party is liable for patent infringement if a single claim is found to be infringed. *College Net, Inc. v. Apply Yourself, Inc.*, 418 F.3d 1225, 1236 (Fed. Cir. 2005). Independent claims are those which do not depend on, or incorporate by reference any part of, another claim. See 35 U.S.C. § 113 (2009). Dependent claims are defined by Title 35: “[A] claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all limitations of the claim to which it refers.” 35 U.S.C. § 112 (2009). To infringe a dependent claim, all of the steps of the dependent claim must be performed in addition to the steps of the independent claim on which it depends. See, e.g., *Wahpeton Canvas Co. v. Frontier Inc.*, 870 F.2d 1546, 1552 (Fed. Cir. 1989) (“One may infringe an independent claim and not infringe a claim dependent on that claim.”). Therefore, to establish direct infringement of a patent, a patentee must prove that every limitation set forth in the independent claim is found in the accused product. See e.g., *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1577 (Fed. Cir. 1989).

To determine whether a patent is infringed, courts use a two-step analysis. *Vivid Techs., Inc. v. Am. Sci. & Eng’g,*



*Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999). First, the court must construe the claims and determine the meaning and scope of the patent claims that are alleged to be infringed and their key terms. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998)(en banc). The construction of claims is a question of law and is decided by a judge. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995)(en banc), *aff'd*, 517 U.S. 370 (1996). After construction, the claims, as interpreted, are compared to the accused infringing device. *Vivid*, 200 F.3d at 803. This comparison is a question of fact. *Id.*

Plaintiff contends that the "original" version of Defendant's PassPoint.net drug abuse screening system infringes Claims 9 and 10 of the '690 Patent and that the court should grant partial summary judgment on that issue. As stated by Plaintiff: "the question of infringement turns on whether the 'original' version of the PassPoint.net product does or does not perform Claim 9's step of 'illuminating a subject's pupil and focusing an image of the subject's pupil on an image plane.'" (Paper 104, Attach. 1, at 24). Plaintiff alleges that Defendant's "original" machine performs all of the steps of Claim 9. Defendant admitted that the machine performs all of the steps in Claim 9 apart from step (a), which is "illuminating a subject's pupil and focusing an image of the subject's pupil

on an image plane." (Paper 107, at 8 and Attach. 3 ¶¶ 2-7). Additionally, Defendant admitted that the "original" machine performs all of the steps of the dependent Claim 10, apart from Claim 10's incorporation of Claim 9. (Paper 107, Attach. 3 ¶¶ 8-10).

Plaintiff argues that Defendant's "original" and "redesigned" PassPoint.net machines illuminate a subject's pupil for the following reasons:

51. The eye imaging equipment being supplied to Defendant by ISCAN for the PassPoint.net product has an IR [infra-red] Illuminator that provides an ambient infrared light source to generally illuminate the eye area.

52. The eye imaging equipment being supplied to Defendant by ISCAN for the PassPoint.net product has an infra-red illumination source.

53. The eye imaging equipment being supplied to Defendant by ISCAN for the PassPoint.net product has an eye imaging video camera that is sensitive to the non-visible infra-red illumination used by the equipment to illuminate the eye.

54. The pupil is among the parts of the eye illuminated by the eye imaging equipment being supplied to Defendant by ISCAN for the PassPoint.net product.

55. The PassPoint.net product brightly illuminates the part of the eye of which the pupil is the center and produces an image in which the pupil appears as a dark area.

(Paper 104, Attach. 2 ¶¶ 51-55)(citing Attach. 6, Kielar Dep. ¶¶ 46:13-47:3, 52:19-21; Paper 46, Attach. 5, Kielar Aff. ¶¶ 8,

10; Paper 76, Attach. 1 ¶¶ 7-8; Paper 86, Attach. 5; Paper 87, at 17).

Additionally, Plaintiff asserts that Defendant's "original" PassPoint.net machine focuses an image of the subject's pupil on an image plane for the following reasons:

53. The eye imaging equipment being supplied to Defendant by ISCAN for the PassPoint.net product has an eye imaging video camera that is sensitive to the non-visible infra-red illumination used by the equipment to illuminate the eye.

55. The PassPoint.net product brightly illuminates the part of the eye of which the pupil is the center and produces an image in which the pupil appears as a dark area.

59. The eye imaging equipment being supplied to Defendant by ISCAN for the PassPoint.net product has eye imaging optics in which optical components (e.g., like a lens) are used with the eye imaging video camera to obtain the infra-red eye illuminator images of the subject's eye over a wide focusing range of seven and one-half inches (7.5") to thirty-eight inches (38").

60. Use of a camera accomplishes focusing on an image plane.

(Paper 104, Attach. 2 ¶¶ 53, 55, 59-60)(citing Paper 46, Attach. 5, Kielar Aff. ¶ 10-11; Paper 76, at 13-14, Attach. 1 ¶ 7; Paper 86, Attach. 5; Paper 87, at 14, 18).

Plaintiff concludes:

Applying this court's construction of the terms "illuminating" and "focusing" as used in Claim 9 to the undisputed facts concerning the operation of Defendant's PassPoint.net products, it is established as a matter of law that both the "original" and the "redesigned" versions of the PassPoint product perform Claim 9's step of *illuminating a subject's pupil on an image plane*.

(Paper 104, at 24)(internal citation omitted). Therefore, Plaintiff asserts that it is entitled to summary judgment on the issue of infringement as to Claims 9 and 10.

Defendant counters that summary judgment on the issue of infringement of Claims 9 and 10 is inappropriate at this stage because there is a genuine issue of material fact as to whether Defendant's "original" PassPoint.net system provides an "image of the pupil on an image plane." (Paper 107, at 1). Defendant argues that the "original" machine does not provide an image of the pupil because it does not use an "illuminated pupil technique." (*Id.* at 10). Defendant asserts that its machine causes light to reach a subject's eye but that the machine only records an image of the "lighted iris, cornea, and eye-lashes of the subject's eye on an image plane." (*Id.* at 11).

Defendant contends that the genuine issue of material fact in dispute is whether an "image" of the pupil or a "dark, unilluminated area" appears on the lens of the camera.

(Paper 107, at 12). Defendant likens a pupil to a black hole, stating,

since the pupil of the subject's eye is a hole, the pupil, by itself, cannot reflect light . . . [t]his means that . . . the light reaching the pupil is not able to be used to light up the pupil and therefore, since the pupil is not illuminated by this light, equipment such as a lens, cannot record or provide an image of the pupil on an image plane.

(*Id.*)(citing Paper 76, Attach. 1, Kielar Rep. ¶¶ 7-8). Defendant concludes that the machine does not provide an image of the pupil but rather causes a "'dark, unilluminated' area to appear in the resulting subject's eye where the pupil would be located since there was no image that the lens could generate there." (Paper 107, at 12).

Defendant's "original" PassPoint.net machine infringes Claim 9, and by extension, Claim 10. Defendant's machine performs a method of fitness testing that includes "illuminating a subject's pupil and focusing an image of the subject's pupil on an image plane." (Paper 1, Attach. 1, at col. 17). To repeat, the court construed Claim 9, step (a) as:

causing light to reach the pupil portion of the eye of a person tested and using equipment such as a lens to provide an image of the pupil to an image plane such as the image plane of a camera, for use in later steps of Claim 9.

(Paper 87, at 13, 18). Furthermore, the court stated, "illuminating means causing light to shine on something, here the pupil of the eye." (*Id.* at 16). According to the court's construction of Claim 9, step (a), a subject's pupil is illuminated when light reaches the pupil. Defendant, admits that "light reach[es] the pupil." (Paper 107, at 11). Defendant also admits that an image of a subject's eye appears on the lens of the "original" PassPoint.net system. (*Id.* at 3). Defendant argues, however, "because the pupil is not illuminated, no image of the pupil is captured." (*Id.* at 3-4). Defendant may not reopen the definition of "illuminated" at this point to argue that an image of a whole eye, captured by Defendant's "original" PassPoint.net machine, is without an image of a pupil. Though it may be possible to capture an image of a pupil by more than one method, Defendant's machine does, according to the court's construction, "provide an image of the pupil to an image plane such as the image plane of a camera." Therefore, there is no genuine issue of material fact as to whether Defendant's "original" PassPoint.net machine performs Claim 9, step (a).

Because Defendant admitted that the "original" PassPoint.net machine performs the remaining steps of Claims 9 and 10, Defendant's "original" machine infringes Claims 9 and 10

and thus infringes the '690 Patent. Therefore, partial summary judgment will be granted to Plaintiff.

### **III. Conclusion**

For the foregoing reasons, Plaintiff's motion for partial summary judgment will be granted. A separate Order will follow.

/s/  
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DEBORAH K. CHASANOW  
United States District Judge