

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

MAGNETAR TECHNOLOGIES
CORP. and G&T CONVEYOR CO.

Plaintiffs,

v.

SIX FLAGS THEME PARKS INC., et al.,

Defendants.

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C.A. No.: 07-127-LPS-MPT

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DISTRICT OF DELAWARE
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REPORT AND RECOMMENDATION

I. INTRODUCTION

In this patent infringement case, plaintiffs Magnetar Technologies Corp. ("Magnetar")¹ and G&T Conveyor Co. ("G&T")² (collectively, "plaintiffs") sued the defendant theme park operators³ on March 1, 2007, alleging infringement of U.S. Patent Nos. 5,277,125 ("the '125 patent") and 6,659,237 ("the '237 patent").⁴ Plaintiffs assert defendants use infringing magnetic braking systems or assemblies in numerous amusement park rides. Plaintiffs contend defendants infringe claim 3 of the '125 patent and/or claims 1 and 10 of the '237 patent.

Presently before the court is the defendants' motion to exclude the testimony of

¹ Magnetar is the assignee of the '237 patent and holds an exclusive field-limited license for the '125 patent. Magnetar's business includes the design and sale of magnetic brake systems for amusement rides and roller coasters.

² G&T is the assignee of the '125 patent. G&T's business primarily involves baggage-handling equipment for airports.

³ Astroworld, L.P., Busch Entertainment Corp., Cedar Fair, Cedar Fair LP, Darien Lake Theme Park and Camping Resort, Inc., Elitch Gardens, L.P., Great America LLC, KKI, LLC, Kings Island Riverside Park Enterprises, Inc., Six Flags Over Georgia II, L.P., Six Flags St. Louis, LLC, Six Flags Theme Parks Inc., and Texas Flags, LTD, Teirco Maryland Inc. (collectively "defendants"). Defendants are owners or operators of amusement parks in various locations.

⁴ D.I. 1.

plaintiffs' infringement expert, Mark T. Hanlon ("Hanlon").⁵

II. PARTIES' POSITIONS

Defendants present two arguments in support of their motion: Hanlon lacks the necessary qualifications to opine on magnetic brake assemblies or the patents-in-suit, and his opinions are not supported by sufficient data, reliable analysis or principles and methods.

A. Hanlon lacks any specialized knowledge to support his expert opinions

Defendants assert "Mr. Hanlon's expert report does not identify any experience with the technology described in the patents-in-suit, either by virtue of his work at Euro Disney twenty years ago or through any other training or experience."⁶ Although Hanlon listed several magnet braking projects in his resume,⁷ he has not described the nature of these projects or his role in them.⁸

Defendants maintain Hanlon completely lacks any "understanding of the operation of the accused magnetic braking assembly," which is exemplified in his deposition.⁹ When questioned regarding the effect that the width of the air gap between the permanent magnet arrays has on the braking force, Hanlon admitted he was "not an expert in the design or the theory of how magnetic brakes work,"¹⁰ but he understands "the magnet arrays [can be moved] to change the force imposed . . . upon

⁵ D.I. 343. Briefing on this motion is as follows: D.I. 344 (defendants' opening brief), D.I. 362 (plaintiffs' answering brief), and D.I. 386 (defendants' reply brief).

⁶ D.I. 344 at 4.

⁷ *Id.*, Ex. E at Ex. A.

⁸ *Id.* at 4.

⁹ *Id.*, Ex. P (Hanlon Depo.).

¹⁰ *Id.* at 4 (quoting *id.*, Ex. P at 167:19-21).

the fin.”¹¹ Thus, defendants argue, although Hanlon may understand the patent, his “inability to answer [] basic questions [shows] that he is not qualified to provide his opinions on infringement.”¹²

Defendants contend Hanlon’s lack of expertise is further exemplified during questioning about Figure 2c of the ‘125 patent,¹³ where he was asked if he saw anything wrong with the figure. He replied: “[t]here doesn’t appear to be. But, once again, I’m not an expert in the design of magnetic arrays”¹⁴

Defendants conclude Hanlon’s education and experience may provide a basic understanding of roller coaster construction and safety, but “this general knowledge does not qualify him provide reliable opinions that the accused rides include magnetic braking assemblies with the elements recited in the asserted claims of the patents-in-suit.”¹⁵

Plaintiffs respond that Hanlon is qualified by reiterating and expanding on his resume, notably, his membership on the American Society of Testing and Materials (“ASTM”) committee for Amusement Rides and Devices, his employment as a California State Quality Safety Inspector, and his management and operation of Hanlon Engineering, Inc. and Hanlon Engineering Intellectual Property, Inc.¹⁶ Plaintiffs further note that between 1996 and 2006 while employed at Hanlon Engineering, he worked on “numerous projects on which he specifically facilitated the installation of magnetic

¹¹ *Id.*, Ex. P at 167:22-168:2.

¹² *Id.* at 5.

¹³ *Id.*, Ex. A at page 2 of 3. (the ‘125 patent.)

¹⁴ *Id.*, Ex. P at 133:21-134:1.

¹⁵ *Id.* at 6.

¹⁶ D.I. 362 at 3-4.

brakes.”¹⁷ His role in those projects involved: reviewing the ride and collecting technical data; designing the structure of the magnetic brakes; fabricating the magnetic brake assemblies and fins; and installation and testing.¹⁸

Plaintiffs contend that despite Hanlon’s absence of knowledge in the design of magnetic arrays or the theory of magnetic brakes, defendants fail to “explain why such expertise is a necessary qualification to testify on whether the accused rides incorporate the elements of the asserted claims.”¹⁹ Plaintiffs conclude Hanlon’s experience in roller coasters and magnetic brakes qualifies him as an expert in the “design and structure of amusement park rides, and . . . with the mounting of magnetic brakes”²⁰

Defendants counter that Hanlon’s experiences “are only general in nature,” and his membership in ASTM does not demonstrate he understands magnetic braking technology.²¹ Defendants further contend plaintiffs fail to explain how Hanlon’s experiences as a state inspector and as owner of Hanlon Engineering, provide him expertise in the technology of the patents-in-suit. Defendants conclude Hanlon’s lack of analysis and detail in his report make “it impossible to determine whether his education and experience permit him to reliably provide opinions.”²²

B. Hanlon’s conclusions are not supported by an appropriate analysis of defendant’s accused roller coaster rides

Defendants request Hanlon’s opinion on patent infringement be excluded

¹⁷ *Id.* at 4.

¹⁸ *Id.* at 4-5.

¹⁹ *Id.* at 5-6.

²⁰ *Id.* at 7.

²¹ D.I. 386 at 4.

²² *Id.* at 5.

because “his proposed testimony is completely unsupported and ungrounded in fact.”²³

Defendants claim Hanlon’s report: fails to “identify how any accused ride meets the limitations of any asserted claim;” merely regurgitates the claim language, followed by a collection of documents; and is void of any discussion of how the cited documents correspond to the claim limitations.²⁴ Defendants maintain Hanlon’s report exhibits no reliable principles and methods, and even if it does, it fails to show how he applied those principles and methods to the facts as required by FED. R. EVID. 702.²⁵

Plaintiffs contend Hanlon identifies the data, principles and methods employed for his conclusions through his element-by-element listing of the specific documents on which he relied. They claim that there is no “analytical gap” because Hanlon’s conclusions are based on personal knowledge and experience.²⁶

Defendants challenge of Hanlon’s expert opinion is that it fails to identify “how any accused ride meets every limitation of any asserted claim,”²⁷ and fails to address the mechanical components of any accused roller coaster.²⁸

III. GOVERNING LAW

The admissibility of expert testimony is governed by Federal Rule of Evidence (“FED. R. EVID.”) 702, which states in relevant part:

If 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)

²³ D.I. 344 at 6.

²⁴ *Id.* at 6.

²⁵ *Id.* at 7.

²⁶ D.I. 362 at 7.

²⁷ D.I. 386 at 3.

²⁸ *Id.* at 2.

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 Pharmaceuticals, Inc.*, the Supreme Court interpreted FED. R. EVID. 702 to “confide[] to the judges some gatekeeping responsibility in deciding questions of the admissibility of proffered expert testimony.”²⁹ The Third Circuit, in applying the *Daubert* principles, has interpreted and construed Rule 702 as “embodying three distinct substantive restrictions on the admission of expert testimony: qualifications, reliability and fit.”³⁰

“In *Paoli*, [the Third Circuit] explained that even if the judge believes ‘there are better grounds for some alternative conclusion,’ and that there are some flaws in the scientist’s methods, if there are ‘good grounds’ for the expert’s conclusions, it should be admitted.”³¹ The question of whether an expert’s testimony is admissible based on his qualifications, reliability, and fit is committed to the court’s discretion.³²

The trial judge has broad latitude in determining whether the *Daubert* factors are reasonable measures of reliability.³³ In *In re Paoli*, the Third Circuit found that proffers of expert testimony do not have to “demonstrate . . . by a preponderance of evidence

²⁹ 509 U.S. 579, 600 (1993) (Rehnquist, J., concurring in part and dissenting in part).

³⁰ *Elcock v. Kmart Corp.*, 233 F.3d 734, 741 (3d Cir. 2000) (explaining *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 741-43 (3d Cir. 1994)). Important facts to consider in evaluating the reliability of a particular scientific or technical methodology include: “(1) whether a method consists of a testable hypothesis; (2) whether the method has been subject 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.” *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 742 n.8 (3d Cir. 1994).

³¹ *Heller v. Shaw Indus., Inc.*, 167 F.3d 146, 152-53 (3d Cir. 1999) (quoting *In re Paoli*, 35 F.3d at 744).

³² *In re Paoli*, 35 F.3d at 749.

³³ See *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 139 (1999).

that the assessments of their experts are *correct*, they [need] only . . . demonstrate by a preponderance of evidence that their opinions are reliable.”³⁴ *Daubert* recognized “vigorous cross examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.”³⁵ The Supreme Court further emphasized the trial court should focus solely on principles and methodology, not on the conclusions generated.³⁶ A trial judge, however, must also scrutinize whether such methods have been properly applied to the facts of the case.³⁷

As previously stated, the determination of whether to exclude expert evidence is within the court’s discretion.³⁸ The Third Circuit has noted, however:

While evidentiary rulings are generally subject to a particularly high level of deference because the trial court has a superior vantage point to assess the evidence, evaluating the reliability of scientific methodologies and data does not generally involve assessing the *truthfulness* of the expert witness [B]ecause the reliability standard of [FED. R. EVID.] 702 and 703 is somewhat amorphous, there is significant risk that district judges will set the threshold too high and will in fact force plaintiffs to prove their case twice. Reducing this risk is particularly important because the Federal Rules of Evidence display a preference for admissibility.³⁹

Thus,

the primary limitation on the judge’s admissibility determinations is that the judge should not exclude evidence simply because he or she thinks that there is a flaw in the expert’s . . . process which renders the expert’s conclusion incorrect. The judge should only exclude the evidence if the flaw is large enough that the expert lacks the “good grounds” for [their]

³⁴ *In re Paoli*, 35 F.3d at 744 (emphasis in original).

³⁵ *Daubert*, 509 U.S. at 596.

³⁶ *Id.* at 580.

³⁷ *See id.*

³⁸ *In re Paoli*, 35 F.3d at 749.

³⁹ *Id.* at 749-50 (emphasis in original) (internal citation omitted).

conclusions.⁴⁰

The Third Circuit has identified several factors for the court to consider in determining whether to exclude expert testimony:

(1) the prejudice or surprise in fact of the party against whom the excluded witness would have testified, (2) the ability of the party to cure the prejudice, (3) the extent to which waiver of the rule against calling unlisted witnesses would disrupt the orderly and efficient trial of the case or of other cases in the court, and (4) bad faith or willfulness in failing to comply with the district court's order.⁴¹

Additionally, the "importance of the excluded testimony" should be considered.⁴²

However, "a district court must examine the expert's conclusions in order to determine whether they could reliably follow from the facts known to the expert and the methodology used."⁴³ "A court may conclude that there is simply too great a gap between the data and the opinion proffered."⁴⁴ Thus, a court may exclude an expert's testimony or opinion if it is conclusory, lacks analysis, or the chasm between the analysis and opinion cannot be bridged.

IV. DISCUSSION

A. Hanlon is qualified to testify about installation, inspection, identification, and application of magnetic brakes

Defendants' argument that Hanlon lacks specialized knowledge to support his expert opinion is directed to his qualifications. Thus, the court must determine the

⁴⁰ *In re TMI Litigation*, 193 F.3d 613, 665 (3d Cir. 1999) (amended by 199 F.3d 158) (quoting *In re Paoli*, 35 F.3d at 746).

⁴¹ *In re Paoli*, 35 F.3d at 791 (quoting *Meyers v. Pennypack Woods Home Ownership Ass'n*, 559 F.2d 894, 904-05 (3d Cir. 1977)).

⁴² *Konstantopoulos v. Westvaco Corp.*, 112 F.3d 710, 719 (3d Cir. 1997) (quoting *Meyers*, 559 F.2d at 904).

⁴³ *Heller v. Shaw Indus., Inc.*, 167 F.3d 146, 153 (3d Cir. 1999).

⁴⁴ *Oddi v. Ford Motor Co.*, 234 F.3d 136, 146 (3d Cir. 2000) (quoting *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997)).

boundaries of his expertise as it concerns the patents-in-suit, the accused products, and the applicable technology.

Hanlon admits he is not “an expert in the design or the theory of how magnetic brakes work.”⁴⁵ Hanlon further agrees he is not “an expert in the design of magnetic arrays.”⁴⁶ As such, he cannot directly opine on those topics where he has admittedly no expertise.

In *Elcock v. Kmart Corp.*, the Third Circuit re-articulated the standard for qualifying an expert:

Rule 702 requires the witness to have “specialized knowledge” regarding the area of testimony. The basis of this specialized knowledge “can be practical 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 qualifications of experts.” However, “at a minimum, a proffered expert witness . . . must possess skill or knowledge greater than the average layman . . .”⁴⁷

Applying the Third Circuit’s liberal interpretation of an expert, Hanlon possesses the required skill and knowledge regarding roller coasters to be qualified as an expert because of his previous employment as a California State Quality Safety Inspector, a Walt Disney Imagineer for Euro Disney, as the founder and president of Hanlon Engineering, Inc., and from his current position as the founder and president of Hanlon Engineering Intellectual Property, Inc.⁴⁸

⁴⁵ D.I. 344, Ex. P at 167:13-21; D.I. 362 at 5.

⁴⁶ *Id.* at 133:21-134:1; D.I. 362 at 5.

⁴⁷ 233 F.3d 734, 741 (Fed. Cir. 2000) (omissions in original) (quoting *Waldorf v. Shuta*, 142 F.3d 601, 625 (3d. Cir. 1998)).

⁴⁸ D.I. 344, Ex. E at Ex. A (Hanlon’s *curriculum vitae* (“CV”)); *id.*, Ex. E at 1-3 (Hanlon’s Inf. Rpt.). In addition to his work experience, Hanlon is a registered licensed professional engineer with the states of California, Nevada, and Florida.

Therefore, under Third Circuit law, Hanlon is a qualified expert.

To be a technical expert in a patent matter and opine regarding (non)infringement or (in)validity, however, an individual must be “qualified as an expert in the pertinent art,”⁴⁹ unless the “technology is simple and neither party claims that expert testimony [is] required,”⁵⁰ or “where the references are ‘easily understandable without the need for expert explanatory testimony.’”⁵¹ In the present case, neither party claims the technology is simple or there is no need for an expert’s assistance. To qualify, the proposed expert must be one of ordinary skill in the art, since it would be “contradictory to Rule 702 to allow a witness to testify . . . who is not qualified as a technical expert in that art.”⁵²

With respect to the technology and patents-in-suit, Hanlon has the necessary skill and knowledge as evidenced from his previously described past work experience, his curriculum vitae, his educational background,⁵³ and his previous involvement in eight magnet eddy braking projects.⁵⁴ Specifically, Hanlon’s declaration describes his work with magnetic brakes as: designing the support structure for the magnetic brakes and fin; designing the tuning mechanism for the magnetic arrays; generating blueprints; and fabricating, assembling, installing, and testing magnetic brakes and fins.⁵⁵ From this

⁴⁹ *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1363 (Fed. Cir. 2008).

⁵⁰ *Id.* at 1365.

⁵¹ *Allergan, Inc. v. Barr Labs., Inc.*, Nos. 2012-1040, 2012-1054, 2013 WL 314446, at *6 (Fed. Cir. Jan. 28, 2013) (quoting *Union Carbide v. American Can Co.*, 724 F.2d 1567, 1573 (Fed. Cir. 1984)).

⁵² *Sundance, Inc.*, 550 F.3d at 1363.

⁵³ D.I. 344, Ex. E at Ex. A.

⁵⁴ *Id.* at 3; *id.*, Ex. E at Ex. A.

⁵⁵ D.I. 362, Ex. 1 at ¶ 8.

experience, Hanlon possesses the qualifications to testify about magnetic brakes, and is capable of identifying the components of a magnetic brake assembly.

Hanlon is not qualified, however, to opine on the theory of operation or the design of magnetic brakes. With respect to claim 3 of the '125 patent, and claims 1 and 10 of the '237 patent, he is qualified to opine whether the accused products contain all of the limitations in an asserted claim.

B. Hanlon's conclusions are not supported by an appropriate analysis of the defendants' accused rides

Defendants' position is that Hanlon's opinion is not supported by appropriate analysis or principles and methods addresses reliability.

Whether his opinions are reliable requires determining if they are "based on the 'methods and procedures of science' [engineering] rather than on 'subjective belief or unsupported speculation'; the expert must have 'good grounds' for his or her belief."⁵⁶ Hanlon's opinions "'must be relevant for the purposes of the case and must assist the trier of fact."⁵⁷

Hanlon's opinion lacks the proper grounds for his conclusions, because it is void of the necessary analysis for comparing each element of the claim to the accused product. Further, for plaintiffs "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

⁵⁶ *Calhoun v. Yamaha Motor Corp., U.S.A.*, 350 F.3d 316, 321 (3d. Cir. 2003) (citing *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 742 (3d. Cir. 1994) (quoting *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 590 (1993))).

⁵⁷ *Id.* (quoting *Schneider v. Fried*, 320 F.3d 396, 405 (3d. Cir. 2003)).

equivalent.”⁵⁸ Thus, the “patentee’s expert must set forth the factual foundation for his infringement opinion in sufficient detail for the court to be certain that features of the accused product would support a finding of infringement under the claim construction adopted by the court”⁵⁹

1. Hanlon’s expert report

Hanlon’s expert report recites his qualifications, and provides a brief general overview of the history of roller coasters, track configuration, and cursory analysis of why ride designers will reuse magnetic brake designs.⁶⁰ He includes a discussion of his general analytical approach to infringement of the ‘125 and ‘237 patents under literal infringement, and the ‘125 patent under the doctrine of equivalents.⁶¹ In his conclusion, Hanlon purportedly addresses how each accused product infringes claim 3 of the ‘125 patent and/or claims 1 and 10 of the ‘237 patent.⁶²

His conclusion, however, fails to provide any analysis of how infringement was determined, and merely contains conclusory statements. The court’s reasoning can best be described by example, and will focus on his conclusions regarding the El Toro Ride (Steel Coaster LIM “El Toro”) as representative⁶³ of his analysis for claim 3 the

⁵⁸ *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1535 (Fed. Cir. 1991).

⁵⁹ *Intellectual Sci. & Tech., Inc. v. Sony Elecs., Inc.*, 589 F.3d 1179, 1183 (Fed. Cir. 2009) (citing *Arthur A. Collins, Inc. v. N. Telecom Ltd.*, 216 F.3d 1042, 1047-48 (Fed. Cir. 2000)).

⁶⁰ D.I. 344, Ex. E at 1-7.

⁶¹ *Id.*, Ex. E at 7-10.

⁶² *Id.*, Ex. E at 10.

⁶³ Hanlon’s opinion of the El Toro ride is virtually identical for every accused ride on which he opined for the ‘125 patent. The analysis herein for claim 3 of the ‘125 patent is representative of the following accused rides: Mr. Freeze, El Toro, Batman & Robin: The Chiller, V & V2 Vertical Velocity, Tatsu, X2 & X, Goliath, Kingda Ka, Nitro, Dark Knight, Superman “Escape from Krypton”, Apocalypse Formally Terminator: The Salvation, American Thunder / Evel Knievel, Dare Devil Coaster, Green Lantern: First Flight, Poltergeist, Half Pipe, New Texas Giant-Previously Texas Giant, Steel Venom, Patriot, Maverick, Silver Bullet, X-Flight, Xcelerator, Top Thrill Dragster, Verbolten, Beast, DiamondBack, Griffon, Manta, Journey to Atlantis, The Nighthawk (NC), Poney Express, Possessed (PA), Sheikra, Sierra

'125 patent, and claims 1 and 10 of the '237 patent⁶⁴ for all accused rides.⁶⁵

2. Introductory Section

Initially, Hanlon lists the ride manufacturer, description, installation location, brake manufacturer, and brake type, along with the materials on which he relied to form his conclusion.⁶⁶ This opening format is basically identical for each ride regardless of the patent addressed.

3. Representative example of claim 3 of the '125 patent

Hanlon purportedly demonstrates how the El Toro practices each element of claim 3 of the '125 patent as follows:

Claim 3 of the '125 patent is recited as follows:

Material handling car and track assembly, said assembly comprising:

- (a) car having wheels mounted thereon, and
- (b) A track having two parallel rails, said wheels being adapted to roll on said rails to facilitate movement of said car along said track,
- (c) A metal fin extending from underside of said car and lengthwise of said car, and
- (d) Opposed magnet assemblies mounted between said tracks,
- (e) Said opposed assemblies being spaced from each other by a distance exceeding the thickness of said fin to define a gap between said magnet assemblies
- (f) Said fin being adapted to pass through said gap in travel of said car over said magnets
- (g) Each of said assemblies comprising a mounting bracket, a plate attached to said mounting bracket, and a series of magnets bonded to said plate,

Sidewinder (CA), Volcana (VA), Wicked Twister, Prowler, Intimidator 305, Intimidator, and Spinning Dragon.

⁶⁴ Hanlon's opinion for the El Toro ride is essentially identical for every accused ride on which he opined for the '237 patent. The analysis herein for claims 1 and 10 of the '237 patent is representative of the following accused products: El Toro, Dark Knight, Apocalypse Formally Terminator: The Salvation, American Thunder / Evel Knievel, Green Lantern: First Flight, New Texas Giant-Previously Texas Giant, and Prowler.

⁶⁵ D.I. 344, Ex. E at 14-22.

⁶⁶ *Id.*, Ex. E at 14-16.

- (h) Said magnets on said plate being disposed side by side in a direction of travel of said car on said rails,
- (i) Said magnets being operative sequentially to act on said fin to impart braking on said car.⁶⁷

His conclusion reads:

It is my opinion that use of one or more permanent magnet eddy current brake assembly on the El Toro ride practices each and every element of claim 3 of the '125 patent. The following summarizes my reasoning, which is explained element-by-element as follows:

Material handling car and track assembly, said assembly comprising:

- (a) **'A car having wheels mounted thereon,'** A car with wheels is depicted in SF34779; SF34780; SF34781; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34828; SF34829; SF34830; SF34832; SF34833; and as concurred in Lawrence J. Chickola's Deposition, pg. 34.
- (b) **'A track having two parallel rails, said wheels being adapted to roll on said rails to facilitate movement of said car along said track,'** The "Track" is depicted in SF34779; SF34780; SF34781; SF34782; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34828; SF34829; SF34830; SF34831; SF34832; SF34833; and as concurred in Lawrence J. Chickola's Deposition, pg. 33.
- (c) **'A metal fin extending from underside of said car and lengthwise of said car, and,'** The "metal fin extending from the underside of the car and lengthwise of the car" is depicted in SF34779; SF34780; SF34781; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34828; SF34829; SF34830; SF34832; SF34833; and as concurred in Lawrence J. Chickola's Deposition, pg. 33.
- (d) **'Opposed magnet assemblies mounted between said tracks,'** are depicted in SF34779; SF34780; SF34781; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34799; SF34800; SF34805; SF34807; SF34808; SF34809; SF34810; SF34813; SF34814; SF34815; SF34816; SF34817; SF34824; SF34825; SF34826; SF34828; SF34829; SF34830; SF34831; SF34832; SF34833; and as concurred in Lawrence J. Chickola's Deposition, pgs. 31-33.
- (e) **'Said opposed assemblies being spaced from each other by a distance exceeding the thickness of said fin to define a gap between said magnet assemblies,'** are depicted in SF34779; SF34780; SF34781; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34799; SF34800; SF34805; SF34807; SF34808; SF34809; SF34810; SF34813;

⁶⁷ *Id.* Ex. E at 12-13.

SF34814; SF34815; SF34816; SF34817; SF34824; SF34825; SF34826; SF34828; SF34829; SF34830; SF34831; SF34832; SF34833; and as concurred in Lawrence J. Chickola's Deposition, pg. 35.

(f) **'Said fin being adapted to pass through said gap in travel of said car over said magnets,'** are depicted in SF34779; SF34780; SF34781; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34799; SF34800; SF34805; SF34807; SF34808; SF34809; SF34810; SF34813; SF34814; SF34815; SF34816; SF34817; SF34824; SF34825; SF34826; SF34828; SF34829; SF34830; SF34831; SF34832; SF34833; and as concurred in Lawrence J. Chickola's Deposition, pg. 35.

(g) **'Each of said assemblies comprising a mounting bracket, a plate attached to said mounting bracket, and a series of magnets bonded to said plate,'** are depicted in SF34779; SF34780; SF34781; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34800; SF34804; SF34805; SF34806; SF34808; SF34809; SF34810; SF34813; SF34814; SF34815; SF34816; SF34817; SF34823; SF34824; SF34825; SF34826; SF34828; SF34829; SF34830; SF34832; SF34833.

(h) **'Said magnets on said plate being disposed side by side in a direction of travel of said car on said rails,'** are depicted in SF34779; SF34780; SF34781; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34800; SF34805; SF34806; SF34808; SF34809; SF34810; SF34813; SF34814; SF34815; SF34816; SF34817; SF34823; SF34824; SF34825; SF34826; SF34828; SF34829; SF34830; SF34832; SF34833.

(i) **'Said magnets being operative sequentially to act on said fin to impart braking on said car,'** are depicted in SF34804; SF34806; and as concurred in Lawrence J. Chickola's Deposition, pgs. 35-36. Per Foucault's principle of eddy currents, a linear eddy current brake uses an array of magnetic fields provided by alternating south and north magnetic poles, through which a member (fin) is passed. This array does not touch the fin, but is held at a constant small distance away (gap).⁶⁸

The Supreme Court in *General Electric Company v. Joiner* found that "nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered."⁶⁹ The Third Circuit elaborated in *Oddi v. Ford Motor Co.*, by

⁶⁸ *Id.*, Ex. E at 13-14.

⁶⁹ 522 U.S. 136, 146 (1997).

finding that “[t]he test of admissibility is not whether a particular [expert] opinion has the best foundation . . . the test is whether the ‘particular opinion is based on valid reasoning and reliable methodology.’”⁷⁰

Regarding claim 3 of the ‘125 patent, Hanlon merely states the claim limitations followed by general references to several documents and the deposition of Chickola. Nowhere does Hanlon explain why the documents or deposition are relevant to the technology involved or to claim 3 of the ‘125 patent, how they show why claim 3 of the ‘125 patents covers the accused product, or how they demonstrate or provide the required analysis of the claim elements to the accused product. The sole exception is section (i), where Hanlon includes two meager explanatory sentences. Assuming these sentences constitute his analysis for this claim, there are eight remaining elements, (a)-(h), with no reasoning whatsoever. He fails elucidate whether he agrees with, or how Chickola’s deposition is consistent with his conclusion. Absent his sparse statement “as concurred in Laurence J. Chickola’s Deposition,”⁷¹ any analytical foundation concerning his reasoning is nonexistent. In addition, Hanlon merely references Exhibit B,⁷² which contains three pictures, shown below.⁷³

⁷⁰ 234 F.3d 136, 145-46 (3d. Cir. 2000) (quoting *Kannankeril v. Terminix Int’l Inc.*, 128 F.3d 802, 806 (3d. Cir. 1997).

⁷¹ D.I. 344, Ex. E at 13.

⁷² *Id.*, Ex. E at Ex. B-1 to B-3.

⁷³ The pictures herein contain the entirety of Ex. B.



The pictures in Exhibit B are provided without any explanation of their relevance, what they depict, how the accused product meets each claim limitation, and why the pictures demonstrate which or whether each element of claim 3 of the '125 is satisfied.

Hanlon provides no analysis of how he applied any reliable principles or methods to the documents to support his conclusions.

Hanlon replicates a similar “analysis” of claims 1 and 10 of the '237 patent as noted in the above discussion of claim 3 of the '125 patent.

4. Representative analysis of claims 1 and 10 of the '237 patent

As with claim 3 of the '125 patent, Hanlon's report for claim 1 of the '237 begins with a conclusory statement that the “‘El Toro’ ride practices each and every element of claim 1 . . . of the '237 patent,”⁷⁴ followed by:

Claim 1 of the '237 patent is recited as follows:

An eddy current brake comprising;
(a) a diamagnetic or non-magnetic member;

⁷⁴ D.I. 344, Ex. E at 19.

- (b) a first support wall;
- (c) a separate second support wall disposed in a spaced apart relationship with said first support wall for enabling the member to pass there between;
- (d) a first linear array of permanent magnets disposed on the first wall on a side of the first wall facing the second wall;
- (e) a second linear array of permanent magnets disposed on the second wall on a side of the second wall facing the first wall, the first and second arrays being parallel with one another;
- (f) and apparatus for adjusting eddy current induced in the member, and braking force, as a function of the velocity of the member between the arrays,
- (g) said apparatus including linkages for enabling movement of the member therepast to change the spaced apart relationship between the first and second walls.⁷⁵

His report continues with a purported “element-by-element” analysis of the claim:⁷⁶

An eddy current brake comprising;

(a) **‘A diamagnetic or non-magnetic member,’** Lawrence J. Chickola’s Deposition, pg. 35.

(b) **‘A first support wall,’** are depicted in SF34779; SF34780; SF34781; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34799; SF34800; SF34805; SF34807; SF34808; SF34809; SF34810; SF34813; SF34814; SF34815; SF34816; SF34817; SF34824; SF34825; SF34826; SF34828; SF34829; SF34830; SF34831; SF34832; SF34833.

(c) **‘A separate second support wall disposed in a spaced apart relationship with said first support wall for enabling the member to pass there between,’** are depicted in SF34779; SF34780; SF34781; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34799; SF34800; SF34805; SF34807; SF34808; SF34809; SF34810; SF34813; SF34814; SF34815; SF34816; SF34817; SF34824; SF34825; SF34826; SF34828; SF34829; SF34830; SF34831; SF34832; SF34833; and as concurred in Lawrence J. Chickola’s Deposition.

(d) **‘A first linear array of permanent magnets disposed on the first wall on a side of the first wall facing the second wall,’** are depicted in SF34779; SF34780; SF34781; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34799; SF34800; SF34805; SF34807; SF34808; SF34809; SF34810; SF34813; SF34814; SF34815; SF34816; SF34817; SF34824; SF34825; SF34826; SF34828; SF34829; SF34830; SF34831;

⁷⁵ *Id.*, Ex. E at 19

⁷⁶ *Id.*, Ex. E at 19.

SF34832; SF34833.

(e) **'A second linear array of permanent magnets disposed on the second wall on a side of the second wall facing the first wall, the first and second arrays being parallel with one another,'** are depicted in SF34779; SF34780; SF34781; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34799; SF34800; SF34805; SF34807; SF34808; SF34809; SF34810; SF34813; SF34814; SF34815; SF34816; SF34817; SF34824; SF34825; SF34826; SF34828; SF34829; SF34830; SF34831; SF34832; SF34833.

(f) **'and apparatus for adjusting eddy current induced in the member, and braking force, as a function of the velocity of the member between the arrays,'** are depicted in SF34785-791; SF34806; SF34808; SF34809; SF34810; SF34813; SF34817; SF34822; SF34823; SF34824; SF34825; SF34826; www.intrasys-online.com/lat_3gb.html. As depicted, the apparatus comprises a pneumatic cylinder connected to two arms, or linkages. In response to external control signals, the apparatus changes the relationship between the two walls of magnets by moving one such wall. As a result, the eddy current, and thus braking force, is adjusted. The external control signals are activated by a detection of the velocity of the fin as it shall pass between the arrays.

(g) **'Said apparatus including linkages for enabling movement of the member therepast to change the spaced apart relationship between the first and second walls.,'** are depicted in SF34785-791; SF34806; SF34808; SF34809; SF34810; SF34813; SF34817; SF34822; SF34823; SF34824; SF34825; SF34826, www.intrasysonline.com/lat_3gb.html. As depicted, the apparatus includes two arms, or linkages. The linkages change the relationship of the walls of magnets relative to each other. The linkages operate on one wall in response to external control signals. The external control signals are activated by a detection of the velocity of the fin as it shall move past the walls.⁷⁷

The above analysis and conclusion suffers from the same infirmities as his analysis and conclusion of claim 3 of the '125 patent. The only difference between Hanlon's analysis of claim 1 of the '237 patent and claim 3 of the '125 patent, is arguably two elements of claim 3 of the '237 patent, (f) and (g), have been addressed, as opposed to one. Similar to his conclusory reasoning of the '125 patent, four elements remain without any analysis—only a listing of documents divorced from any

⁷⁷ *Id.*, Ex. E at 19-21.

explanation regarding the what, how or why of their relevance in relation to the element of claim or that limitation's reading on the product.⁷⁸

As a result, the court cannot say Hanlon's expert opinion is "based on reliable methodology and . . . reliably flow[ed] from that methodology,"⁷⁹ because it is void of any discussion of how the cited documents correspond to the claim limitations.

For completeness, the court will also briefly examine claim 10 of the '237 patent.

Similar to claim 3 of the '125 patent and claim 1 of the '237 patent, Hanlon initially recites the elements of claim 10 of the '237 patent.

Claim 10 of the '237 patent is recited as follows:

An eddy current brake comprising:

- (a) a diamagnetic or non-magnetic member;
- (b) a first linear array of permanent magnets;
- (c) a second linear array of permanent magnets disposed in a spaced apart relationship with said first linear array for enabling the member to pass there between,
- (d) the first and second arrays being parallel with one another;
- (e) and apparatus for adjusting eddy current induced in the member, and braking force, as a function of velocity of the member between the arrays,
- (f) said apparatus including linkages for enabling movement of the member therepast to change the spaced apart relationship between the

⁷⁸ The unanswered questions include: the relevance of the cited documents and what they depict; location within the document of relevant information; why that information is material to the issue of infringement; how that information demonstrates infringement; the bases for the conclusion; and why/how the accused products meet the claim limitations. Thus, since Hanlon fails to identify structures in the accused rides that correspond to the claim elements, neither the court nor a trier of fact could discern the structures purported to meet the claim limitations for literal infringement. Similarly, under the doctrine of equivalents, a patentee, generally through expert testimony, "*must . . . provide particularized testimony and linking argument* as to the 'insubstantiality of the differences' between the claimed invention and the accused device or process *Such evidence must be presented on a limitation by limitation basis,*" and generalized testimony regarding the "overall similarity between the claims and accused infringer's product or process" is insufficient. *AquaTex Indus., Inc. v. Techniche Solutions*, 479 F.3d 1320, 1328 (emphasis and first omission in original) (quoting *Texas Instruments, Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1567 (Fed. Cir. 1996)). In the absence of particularized evidence on a limitation by limitation basis and linking argument demonstrating the insubstantial differences and showing the function, way, result test, Hanlon's report fails to meet the elements of the doctrine of equivalents.

⁷⁹ *Heller v. Shaw Indus.*, 167 F.3d 146, 152 (3d. Cir. 1999).

first and second arrays.⁸⁰

Hanlon's reasoning, allegedly on an element-by-element basis, provides:⁸¹

An eddy current brake comprising;

(a) **'A diamagnetic or non-magnetic member,'** is concurred in Lawrence J. Chickola's Deposition, pg. 35.

(b) **' first linear array of permanent magnets,'** are depicted in SF34779; SF34780; SF34781; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34799; SF34800; SF34805; SF34807; SF34808; SF34809; SF34810; SF34813; SF34814; SF34815; SF34816; SF34817; SF34824; SF34825; SF34826; SF34828; SF34829; SF34830; SF34831; SF34832; SF34833.

(c) **'A second linear array of permanent magnets disposed in a spaced apart relationship with said first linear array for enabling the member to pass therebetween,'** are depicted in SF34779; SF34780; SF34781; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34799; SF34800; SF34805; SF34807; SF34808; SF34809; SF34810; SF34813; SF34814; SF34815; SF34816; SF34817; SF34824; SF34825; SF34826; SF34828; SF34829; SF34830; SF34831; SF34832; SF34833.

(d) **'the first and second arrays being parallel with one another,'** are depicted in SF34779; SF34780; SF34781; SF34784; SF34785-791; SF34792; SF34793; SF34794; SF34799; SF34800; SF34805; SF34807; SF34808; SF34809; SF34810; SF34813; SF34814; SF34815; SF34816; SF34817; SF34824; SF34825; SF34826; SF34828; SF34829; SF34830; SF34831; SF34832; SF34833.

(e) **'and apparatus for adjusting eddy current induced in the member, and braking force, as a function of the velocity of the member between the arrays,'** are depicted in SF34785-791; SF34806; SF34808; SF34809; SF34810; SF34813; SF34817; SF34822; SF34823; SF34824; SF34825; SF34826. As depicted, the apparatus comprises a pneumatic cylinder connected to two arms, or linkages. In response to external control signals, the apparatus changes the relationship between the two walls of magnets by moving one such wall. As a result, the eddy current, and thus braking force, is adjusted. The external control signals are activated by a detection of the velocity of the fin as it shall pass between the arrays.

(f) **'Said apparatus including linkages for enabling movement of the member therepast to change the spaced apart relationship between the first and second arrays,'** are depicted in SF34785-791; SF34806; SF34808; SF34809; SF34810; SF34813; SF34817; SF34822; SF34823; SF34824; SF34825; SF34826. As depicted, the apparatus includes two arms, or linkages.

⁸⁰ D.I. 344, Ex. E at 21.

⁸¹ *Id.*, Ex. E at 21-22.

The linkages change the relationship of the walls of magnets relative to each other. The linkages operate on one wall in response to external control signals. The external control signals are activated by a detection of the velocity of the fin as it shall move past the walls.⁸²

Hanlon's analysis for claim 10 of the '237 patent is identical to the analysis of claim 1 of the '237 patent and claim 3 of the '125 patent, and is similarly conclusory, absent identification of how the accused ride meets the limitations of the asserted claim.⁸³

Ipse dixit is defined as "something asserted but not proved,"⁸⁴ which exemplifies Hanlon's expert report. Hanlon only provides data and a conclusion, with the chasm between not bridged by any analysis. Without an explanation for his reliance on and the relevance of the cited documents, the court cannot find any good grounds for his conclusions.⁸⁵ Therefore, Hanlon's expert report is stricken.

Alternatively, even if the court assumes the documents and deposition referenced by Hanlon contain the necessary analysis, it is not the court's role (nor the opposition's responsibility) to comb through these documents, extrapolate the necessary information, analyze it, and hobble together an expert opinion based on assumptions of what the expert felt was significant. Rather, the court examines "the expert's conclusions in order to determine whether they could reliably flow from the

⁸² *Id.*, Ex. E at 21-22.

⁸³ *Intellectual Sci. & Tech., Inc. v. Sony Elecs., Inc.*, 589 F.3d 1179, 1185 ("Even if the elements are common components, the record must specifically identify the infringing features of those components and the reason that one of skill in the art would recognize them as infringing. Without that further identification and explanation, a reasonable juror would not be able to determine that those allegedly infringing components are actually present.").

⁸⁴ *Blacks Law Dictionary* at 847 (8th ed. 2004).

⁸⁵ See *Heller*, 167 F.3d at 152-53 (citing *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 744 (3d. Cir. 1994)).

facts known to the expert and the methodology used.”⁸⁶ Hanlon’s opinion fails to demonstrate how he applied any methodology to the facts, contrary to the requirements of *Daubert* and FED. R. EVID. 702.

V. RECOMMENDED DISPOSITION

Consistent with the findings herein,

IT IS RECOMMENDED that:

1. Defendant’s motion to strike Hanlon as an expert (D.I. 343) is granted in part and denied in part. Specifically, defendants’ motion to strike the expert report and testimony of Mark T. Hanlon is granted.

Pursuant to 28 U.S.C. § 636(b)(1)(B), FED. R. CIV. P. 72(a) and D. DEL. LR 72.1, any objections to the Report and Recommendation shall be filed within fourteen (14) days limited to ten (10) pages after being served with the same. Any response is limited to ten (10) pages.

The parties are directed to the Court’s Standing Order in Non-Pro Se matters for Objections Filed under FED. R. CIV. P. 72 dated October 9, 2013, a copy of which is available on the court’s website, www.ded.uscourts.gov.

Date: February 7, 2014

/s/ Mary Pat Thyng
UNITED STATES MAGISTRATE JUDGE

⁸⁶ *Oddi v. Ford Motor Co.*, 234 F.3d 136, 146 (3d. Cir. 2000).