

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
SAN ANTONIO DIVISION

M-I LLC,

Plaintiff,

vs.

FPUSA, LLC,

Defendant.

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No. SA:15–CV–406–DAE

ORDER DENYING DEFENDANT’S MOTION
TO DISSOLVE PRELIMINARY INJUNCTION

Before the Court is a Motion to Dissolve the Preliminary Injunction issued by this Court on November 4, 2015, filed by Defendant FPUSA, LLC (“Defendant”) (Dkt. # 113). On October 13, 2016, the Court held a hearing on the matter. Ted. D. Lee, Esq., Michelle C. Replogle, Esq., and John R. Keville, Esq., appeared on behalf of Plaintiff M-I LLC (“Plaintiff”). Christopher L. Dodson, Esq., Douglas F. Stewart, Esq., and Timothy R. Geiger, Esq., appeared on behalf of Defendant. After considering the arguments made by the parties at the hearing, the evidence presented, and arguments made in the briefs, the Court, for the reasons that follow, finds that this motion should be **DENIED** (Dkt. # 113).

On November 4, 2015, this Court issued an Amended Order granting Plaintiff’s motion to preliminarily enjoin Defendant from infringing or inducing

the infringement of Claim 16 of U.S. Patent No. 9,004,288 (the “’288 Patent”), contingent upon the posting of a ten million dollar bond. Plaintiff filed the bond the following day, and the injunction took effect. Defendant now seeks to invalidate the preliminary injunction by raising additional challenges to the validity of the ’288 Patent.

BACKGROUND

Plaintiff is a limited liability company engaged in the business of supplying oil drilling fluid and related equipment and services. (Dkt. # 1 ¶ 1; Dkt. # 8 at 1.) Drilling fluid serves to lubricate and cool drill bits during the drilling process, and also serves to convey drill cuttings away from the bore hole. (Dkt. # 8 at 2.) Drilling fluids are typically very expensive; thus, to reduce the cost of drilling operations, operators seek to recover and reuse as much drilling fluid as possible. (Id. at 2–3.) A “shale shaker,” which is used to remove large solids from the drilling fluid, is one piece of equipment used in the recovery process. (Id. at 3.) Operators feed “slurry” (a mixture of drilling fluid and drill cuttings) onto the shaker bed, where a vibrating screen separates the drilling fluid from drill cuttings and other solids. (Id.) The drilling fluid then falls through the screen into a receptacle below. (Id.)

Plaintiff’s inventor, Brian Carr, filed several patent applications with the United States Patent and Trademark Office (“USPTO”) in 2006 regarding

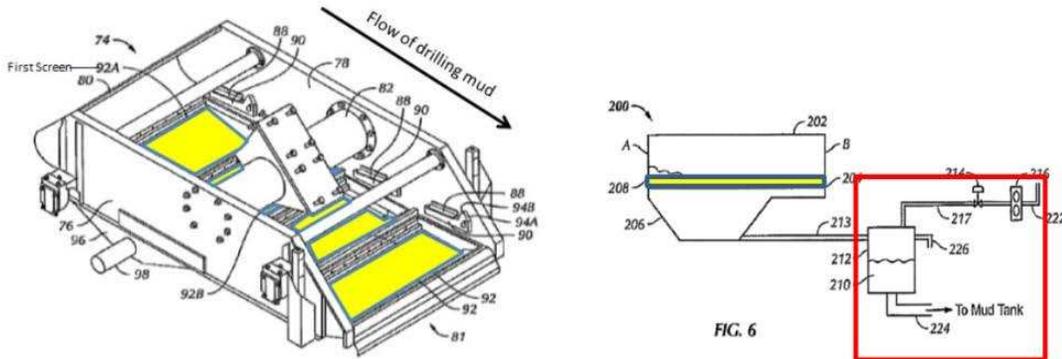
improvements to shakers and the drilling fluid recovery process. (Id. at 3.) On April 14, 2015, one of those applications issued as the '288 Patent. (Id.; Dkt. # 8, Ex. A.) The abstract of the '288 Patent describes Carr's invention as follows:

A system for separating components from a slurry of drilling fluid and drill cuttings on a shaker screen having an upper side and a lower side within a shaker. The system also has a pressure differential generator to pull an effective volume of air through a section of the shaker screen to enhance the flow of drilling fluid through the section of the shaker screen and the separation of drilling fluid from drill cuttings and further maintain an effective flow of drill cuttings off the shaker. A method of separating components of a slurry of drilling fluids and solids has the steps of delivering the slurry to a shaker, flowing the slurry over a first screen and applying an effective amount of vacuum to a first portion of the first screen to remove the drilling fluids from the slurry without stalling the solids on the first screen.

(Dkt. # 8, Ex. A at 1.)

Figure 4 of the '288 Patent illustrates some of the features of Carr's invention. It shows a shaker with multiple screens, and a "sump" (reservoir) under the screens. An outlet on the shaker connects to a pressure differential device, which creates a pressure differential across the screens. The pressure differential pulls air through the screen, improving drilling fluid recovery as well as the flow of drill cuttings off the shaker. (Id. at 4.) In different iterations of the device, one or more sumps may be located under the screens such that a pressure differential may be provided across fewer than all of the shaker screens. (Id., Ex. A, 7:8–14.) Adjusting the volume of air pulled through the screens prevents drill cuttings from stalling as the slurry passes across the screen. (Id. at 4:49–51.) Figure 6 of the

'288 Patent illustrates other aspects of Carr's invention. It shows a screen installed on top of a sump, which is fluidly connected via flow line to a degassing chamber and a pressure differential device in order to generate the desired pressure differential across the screen. (Dkt. # 8 at 4; *id.*, Ex. A.)



('288 Patent, Figures 4 and 6.)

On May 15, 2015, Plaintiff filed the instant lawsuit alleging that a shale shaker produced by Defendant infringes the '288 Patent. (Dkt. # 1.) On June 24, 2015, this Court issued an Order Granting Plaintiff's Motion for Preliminary Injunction as to claims 1 and 16 of the '288 Patent. (Dkt. # 31.) Defendant appealed. (Dkt. # 49.) On September 24, 2015, the Federal Circuit affirmed this Court's injunction with respect to Claim 16, vacated the Court's injunction as to Claim 1, and remanded for this Court to reform its injunction. The reformed injunction consistent with the Federal Circuit's direction issued on November 4, 2015.

On November 19, 2015, Defendant filed a Petition for Inter Partes Review ("IPR") before the USPTO's Patent Trial and Appeal Board ("PTAB"),

seeking review of the '288 Patent. (“IPR Petition,” Dkt. # 113, Ex. C; FPUSA, LLC v. M-I LLC, No. IPR 2016-00213 (P.T.A.B. Nov. 19, 2015). The IPR Petition asserted that numerous claims of the '288 Patent were unpatentable, based upon six prior art references which Defendant had not discovered at the time this Court held the hearing on the Motion for a Preliminary Injunction. (Dkt. # 113 at 5.) The PTAB panel issued a decision on June 2, 2016, which instituted review of the '288 Patent. (“IPR Decision,” Dkt. # 113, Ex. J; FPUSA, LLC v. M-I LLC, No. IPR 2016-00213 at 28–29 (P.T.A.B. Jun. 2, 2016).)

Now, Defendant seeks to dissolve the November 4, 2015, injunction, arguing that the PTAB panel’s decision to institute IPR against the '288 Patent amounts to a change in circumstances such that Plaintiff can no longer establish a likelihood of success on the merits. (Dkt. # 113 at 1–11.) Further, Defendant argues that even if the PTAB panel’s decision to institute IPR does not amount to a change in circumstances, the discovery of the prior art warrants the dissolution of the preliminary injunction. (Id. at 11.)

LEGAL STANDARD

A patentee suing an alleged infringer for patent infringement may, for the purpose of immediately preventing further alleged infringement, move for the “extraordinary relief” of a preliminary injunction. 35 U.S.C. § 283; Titan Tire Corp. v. Case New Holland, Inc., 566 F.3d 1372, 1375 (Fed. Cir. 2009). The

purpose of a preliminary injunction is “to preserve the status quo pending a determination of the action on the merits.” Litton Sys., Inc. v. Sundstrand Corp., 750 F.2d 952, 961 (Fed. Cir. 1984). A party seeking a preliminary injunction must establish (1) that it is likely to succeed on the merits, (2) that it is likely to suffer irreparable harm in the absence of relief, (3) that the balance of equities is in its favor, and (4) that an injunction is in the public interest. Winter v. Nat. Res. Def. Council, Inc., 555 U.S. 7, 20 (2008).

The grant of a preliminary injunction is not unique to patent law, and the Federal Circuit applies the law of the regional circuit when reviewing and interpreting such decisions. Aevoe Corp. v. AE Tech. Co., 727 F.3d 1375, 1381 (Fed. Cir. 2013). However, “[s]ubstantive matters of patent infringement are unique to patent law, and thus the estimated likelihood of success in establishing infringement is governed by Federal Circuit law.” Revision Military, Inc. v. Balboa Mfg. Co., 700 F.3d 524, 526 (Fed. Cir. 2012).

“Ordinarily, the purpose of a motion to modify an injunction is to demonstrate that changed circumstances make the continuation of the order inequitable.” Black Ass’n of New Orleans Fire Fighters (BANOFF) v. City of New Orleans, La., 853 F.2d 347, 354 (5th Cir. 1988). “Modification of an injunction is appropriate when the legal or factual circumstances justifying the injunction have changed.” ICEE Distrib., Inc. v. J&J Snack Foods, Corp., 445

F.3d 841, 850 (5th Cir. 2006). In the context of a preliminary injunction enjoining patent infringement, discovery of prior art is a changed factual circumstance warranting reexamination of the validity of the patent. Entegris, Inc. v. Pall Corp., 490 F.3d 1340, 1343 (Fed. Cir. 2007)

DISCUSSION

I. Likelihood of Success on the Merits

A party seeking a preliminary injunction must first show a likelihood of success on the merits. Winter, 555 U.S. at 20. For a patentee-plaintiff to establish that it is likely to succeed on the merits of a patent infringement claim, it must show (1) that it is likely to prove infringement of the patent claim, and (2) that the infringed-upon claim is valid. AstraZeneca LP v. Apotex, Inc., 633 F.3d 1042, 1050 (Fed. Cir. 2010). To meet its burden under this prong, a patentee must prove that “success in establishing infringement is more likely than not.” Trebro Mfg., Inc. v. Firefly Equip., LLC, 748 F.3d 1159, 1166 (Fed. Cir. 2014) (internal quotation marks omitted). “A preliminary injunction should not issue if an alleged infringer raises a substantial question regarding either infringement or validity,” and the patentee cannot show that the question “lacks substantial merit.” AstraZeneca, 633 F.3d at 1050. The Court addresses the infringement and validity elements in turn below.

A. Infringement

This Court previously found that Plaintiff met its burden of showing a likelihood of the success on the merits of its direct infringement claim with respect to Claim 16 of the '288 Patent. (Dkt. # 89 at 21.) This finding was affirmed by the Federal Circuit Court of Appeals. The parties do not challenge this finding, and the Court does not readdress it here.

B. Validity

A patent is entitled to a presumption of validity. 35 U.S.C. § 282. “A patent holder seeking a preliminary injunction bears the burden of establishing a likelihood of success on the merits with respect to the patent’s validity.” Entegris, 490 F.3d at 1351 (citing Helifix, Ltd. v. Blok-Lok, Ltd., 208 F.3d 1339, 1351 (Fed. Cir. 2000)). “If [the defendant] raises a substantial question concerning . . . validity” and “the patentee cannot prove [the challenge] ‘lacks substantial merit’ then the patentee has not established a likelihood of success on the merits.” Abbott Labs. v. Andrx Pharm., Inc., 452 F.3d 1331, 1335 (Fed. Cir. 2006) (quoting Amazon.com, Inc. v. Banresandnoble.com, Inc., 239 F.3d 1343, 1350–51 (Fed. Cir. 2001)) (alterations in Abbott Labs). In such a case, the preliminary injunction should not issue, or should be dissolved. Entegris, 490 F.3d at 1351; Wavetronix LLC v. Iteris, Inc., No. A-14-CA-970-SS, 2015 WL 300726, at *6 (W.D. Tex. Jan. 22, 2014).

At the preliminary injunction stage, an alleged infringer may assert an invalidity defense on a lesser burden of proof than is required to support a judgment of invalidity at trial. See Amazon.com, 239 F.3d at 1350; Atlanta Pharma AG v. Teva Pharms. USA, Inc., 566 F.3d 999, 1005–06 (Fed. Cir. 2009). The burden then shifts to the party seeking to enjoin the alleged infringement to demonstrate that the invalidity defense “lacks substantial merit.” Entegris, 490 F.3d at 1352 (citing Genetech, Inc. v. Novo Nordisk, 108 F.3d 1361, 1364 (Fed. Cir. 1997)). At this stage, “vulnerability is the issue . . . while validity is the issue at trial. The showing of a substantial question as to invalidity thus requires less proof than the clear and convincing showing necessary to establish invalidity itself.” Abbott Labs., 452 F.3d at 1335.

1. Anticipation

§ 102 of the Leahy-Smith America Invents Act, 35 U.S.C. § 100 et seq., explains that “a claim is anticipated ‘if each and every limitation is found either expressly or inherently in a single prior art reference.’” King Pharm., Inc. v. Eon Labs, Inc., 616 F.3d 1267, 1274 (Fed. Cir. 2010) (quoting Celeritas Techs. Ltd. v. Rockwell Int’l Corp., 150 F.3d 1354, 1360 (Fed. Cir. 1998)). “Section 102 embodies the concept of novelty—if a device or process has been previously invented (and disclosed to the public), then it is not new, and therefore the claimed invention is ‘anticipated’ by the prior invention.” Net MoneyIN, Inc. v. VeriSign,

Inc., 545 F.3d 1359, 1369 (Fed. Cir. 2008). A proponent seeking “to demonstrate anticipation . . . must show ‘that the four corners of a single, prior art document describe every element of the claimed invention.’” Id. (quoting Xerox Corp. v. 3Com Corp., 458 F.3d 1310, 1322 (Fed. Cir. 2006); Advanced Display Sys., Inc. v. Kent State Univ., 212 F.3d 1272, 1282 (Fed. Cir. 2000). “Because the hallmark of anticipation is prior invention, the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements ‘arranged as in the claim.’” Net MoneyIN, 545 F.3d at 1369 (quoting Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1548 (Fed. Cir. 1983)). “[U]nless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102. Net MoneyIN, 545 F.3d at 1371.

2. Obviousness

§ 103 of the Leahy-Smith America Invents Act “forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” KSR Int’l Co. v. Teleflex Inc., 550 U.S. 398,

406 (2007) (quoting 35 U.S.C. § 103(a).) In other words, a claim is obvious when ‘the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the subject matter pertains.’ 35 U.S.C. § 103; see KSR Int’l Co., 550 U.S. at 406.

Courts utilize the following objective framework to apply the “obviousness” test of § 103:

First, the Court ‘determines the scope and content of the prior art, and ascertains the differences between the prior art and the claims at issue, and resolves the level of ordinary skill in the pertinent art. Against this background, the [court] determines whether the subject matter would have been obvious to a person of ordinary skill in the art at the time of the asserted invention.’

Abbott Labs., 452 F.3d at 1336 (quoting In re Kahn, 441 F.3d 977, 985 (Fed. Cir. 2006)); see also Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 13–17 (1966).

A “patent for a combination which only unites old elements with no change in their respective functions . . . obviously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men.” KSR Int’l Co., 550 U.S. at 415–16 (quoting Great Atlantic & Pacific Tea Co. v. Supermarket Equip. Corp., 340 U.S. 147, 152–53 (1950)). Conversely, “when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be

nonobvious.” KSR Int’l Co., 550 U.S. at 416 (citing United States v. Adams, 383 U.S. 39, 51–52 (1966)).

Defendant’s Motion to Dissolve the Injunction focuses on three specific challenges to the validity of Claim 16 of the ’288 Patent. (Dkt. # 113.) The PTAB’s consideration of each of these challenges is explained below, alongside the parties’ arguments and this Court’s analysis.

3. The Weight the PTAB Decision Should be Afforded

In 2011, Congress enacted a statute creating the current IPR proceeding, which allows “any third party to ask the [USPTO] to initiate inter partes review of a patent claim” to determine whether a claim is unpatentable in light of prior art. Cuozzo Speed Tech., LLC v. Lee, 136 S. Ct. 2131, 2137 (2016). The current proceeding changes “the standard that governs the Patent Office’s institution of the agency’s process.” Id. The new standard requires a petition to show “a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”¹ 35 U.S.C. § 314(a). The USPTO previously conducted inter partes reexaminations of patents; the threshold showing

¹ Importantly, the burden a party must bear to institute IPR is much lower than the burden a party must bear to prevail. To prevail in IPR, the challenger “must establish unpatentability ‘by a preponderance of the evidence.’” Cuozzo Speed Tech., 136 S. Ct. at 2137. While a less rigorous standard than the “clear and convincing evidence” standard used in district court patent litigation, the showing necessary to prevail in IPR proceedings is notably higher than the showing necessary to institute the IPR proceedings. Id.

for institution of an inter partes reexamination required the challenging party to raise a “substantial new question of patentability.” 35 U.S.C. § 312(a) (2006 ed.) (repealed).

Once the PTAB has determined that a challenger has made a sufficient showing to institute IPR review of a claim, as the PTAB did here, the IPR proceedings are subject to a different standard than that used by district courts evaluating patents: claims subject to IPR are “given their broadest reasonable interpretation consistent with the specification, and limitations in the specification are not to be read into the claims.”² In re Yamamoto, 740 F.2d 1569, 1571 (Fed. Cir. 1984). “District courts, by contrast, do not assign terms their broadest reasonable interpretation. Instead, district courts seek out . . . the construction that most accurately delineates the scope of the claimed invention.” PPC Broadband, Inc. v. Corning Optical Comm., RF, LLC, 815 F.3d 734, 740 (Fed. Cir. 2016). The Supreme Court has acknowledged that the use of different standards “may produce inconsistent results and cause added confusion,” but finds that “the possibility of inconsistent results is inherent to Congress’ regulatory design.” Cuozzo Speed

² Nonetheless, the PTAB used this Court’s construction of the “first screen” and “second screen” of Claim 16. (IPR Dec. at 8.) All other claims considered in the IPR decision are given their broadest reasonable interpretation and the PTAB explicitly acknowledges this standard is different from the construction standard utilized by federal district courts. (Id.)

Tech., 136 S. Ct. at 2146 (citing One Lot Emerald Cut Stones v. United States, 409 U.S. 232, 235–238 (1972)).

Accordingly, the decision to institute IPR proceedings is a factor that should be considered, but is by no means dispositive, when evaluating a Plaintiff’s likelihood of success on the merits at the preliminary injunction stage. See Procter & Gamble Co. v. Kraft Foods Global, Inc., 549 F.3d 842, 847 (Fed. Cir. 2008) (stating this proposition in the context of a reexamination proceeding).³ In fact, the

³ Defendant urges the Court to consider four opinions where district courts relied upon the preliminary findings of the PTAB when issuing or dissolving a preliminary injunction. At the outset, none of these decisions are binding on the Court.

The first, DUSA Pharm., Inc. v. River’s Edge Pharm., LLC, is a case in which a Defendant moved to dissolve a preliminary injunction after the USPTO granted a request for reexamination and issued a preliminary Office Action rejecting all claims of the challenged patent. No. 06–1843 (SRC), 2007 WL 748448, (D.N.J. March 7, 2007). In DUSA, the district court found that the decision found that the USPTO’s preliminary Office Action raised a substantial question of invalidity as to the challenged patent, and the Plaintiff did not show that the validity question raised by the USPTO lacked substantial merit. Id. at *3. At the time DUSA was issued, the USPTO conducted inter partes reexaminations, rather than inter partes reviews of patents; the threshold showing for institution of an inter partes reexamination was higher than the current standard, and required the challenging party to raise a “substantial new question of patentability.” 35 U.S.C. § 312(a) (2006 ed.) (repealed). Further, DUSA does not stand for the proposition that the district court must dissolve an injunction following a preliminary finding by the USPTO, only that such a finding could amount to a validity challenge. DUSA Pharm., Inc., 2007 WL 748448, at *3. Accordingly, the reasoning of this case does not affect the Court’s analysis, below.

In the second case urged by Defendant, Smart Modular Tech., Inc. v. Netlist, Inc., the district court denied a patent-holder’s motion for a preliminary injunction

after finding that Defendant had raised a substantial issue of patent validity, in part based upon the USPTO's decision to institute reexamination proceedings.³ No. 2:12-cv-2319-TLN-EFB, 2013 WL 2384342 (E.D. Cal. May 30, 2013). However, in Smart Modular Tech., as in DUSA, the USPTO also issued an Office Action formally rejecting certain claims of the patent at issue; the USPTO did not issue such an Office Action in the instant suit. Smart Modular Tech., 2013 WL 2384342, at *3. Based upon the Office Action rejecting claims of the patent and the institution of reexamination, the court concluded that the Plaintiff could not demonstrate a likelihood of success on the merits. Id. However, the court in Smart Modular Tech. did not consider whether Plaintiff could demonstrate that the invalidity defense "lacks substantial merit," and does not explain if this is a result of the Office Action formally rejecting the claims, or the institution of reexamination proceedings. See id. Accordingly, this case is not instructive to the Court.

The third case cited by Defendant, TAS Energy, Inc. v. Stellar Energy Am., Inc., is instructive to this Court's analysis. No. 8:14-cv-3145-T-30MAP, 2015 WL 6156149 (M.D. Fla. Oct. 19, 2016). The court in TAS Energy denied a motion for a preliminary injunction after considering that the PTAB had issued a decision to institute IPR of a patent claim nearly identical to the patent claim at the heart of the proposed injunction, and finding that the Plaintiff seeking the injunction did not demonstrate that the invalidity defense lacked substantial merit. Id. at *7-*8. The court in TAS Energy considered the institution of IPR proceedings as a factor in its validity analysis; this Court will do the same.

Likewise, the final case cited by Defendant, DNA Genotek Inc. v. Spectrum Solutions LLC, No. 16-cv-1544, ECF No. 12 (S.D. Cal. Oct. 6, 2016), is instructive here. The Plaintiff in DNA Genotek sued the Defendant, alleging patent infringement, and seeking a preliminary injunction. A third party had challenged another of Plaintiff's patents before the PTAB, and the PTAB decided to institute IPR. The Defendant challenged the validity of Plaintiff's patent because the patent being reviewed by the PTAB was closely related to the patent at issue in DNA Genotek. Defendant claimed that the IPR proceedings raised a substantial question as to the validity of the patent, and the district court agreed. DNA Genotek, ECF No. 12, at 5. The Court in DNA Genotek found that the Plaintiff had not rebutted the question of validity raised by the IPR proceedings, and accordingly had not made a showing of a likelihood of success on the merits, as was required for the preliminary injunction to issue. Accordingly, the Court reads DNA Genotek to stand for the proposition that IPR proceedings before the

Federal Circuit expressly cautions district courts that the standard utilized when determining to institute reexamination proceedings⁴ differs from the “‘substantial question of validity’ standard by which a defendant may prevent a patentee from demonstrating a likelihood of success on the merits.” Id. at 848. The Federal Circuit further explained that the institution of reexamination is not a guarantee that the “the examiner would . . . reject the claim as either anticipated by, or obvious in view of, the prior art patents or printed publications.” Id. (quoting Manual of Patent Examination and Procedure § 2642 (8th ed. Rev. 7 2008)).

Accordingly, while the institution of IPR is instructive to this Court’s evaluation of the injunction, it is not dispositive.

Of course, should the PTAB conclude at the end of the IPR proceeding that Claim 16 is invalid, the circumstances would change. However, at this stage, the PTAB’s preliminary decision to institute IPR for the ’288 Patent is based upon an entirely different standard than the standard used in the instant proceedings; the current inconsistency between the two proceedings, while confusing, is “inherent to Congress’ regulatory design.” Cuozzo Speed Tech., 136

PTAB may raise a substantial question as to the validity of the patent at issue. However, DNA Genotek does not stand for the proposition that IPR proceedings raise an automatic bar to finding a Plaintiff likely to succeed on the merits of its claim.

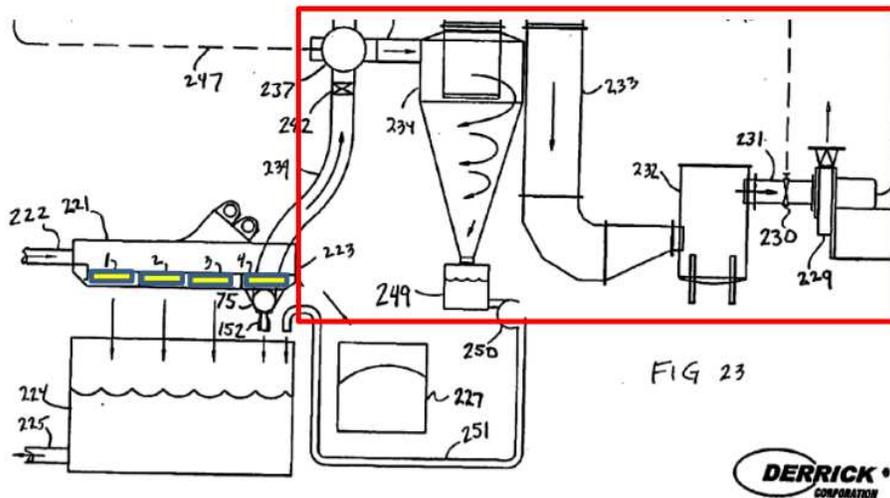
⁴ This decision was issued before the transition from reexamination to IPR proceedings.

S. Ct. at 2146. Accordingly, while the PTAB's stated reasons for instituting IPR proceedings may inform this Court's analysis of validity based upon prior art, the Court need not rely on the PTAB's conclusions at this time.

4. Analysis

a. U.S. Pat. Pub. No. 2005/0082236

Defendant argues that U.S. Pat. Pub. No. 2005/0082236 of Derrick, et al. ("Derrick") raises a substantial question as to the validity of Claim 16 of the '288 Patent, because it anticipates claim 16. (Dkt. # 113 at 17–20; IPR Pet. at 24–26.) The Derrick application was filed on October 29, 2004, almost a year before the provisional application for the '288 Patent was filed. ("Derrick," Dkt. # 113, Ex. D, at 1.) Derrick discloses an "apparatus and method for screening a slurry in which the slurry is vibrated and conveyed across a screen and suction is applied from below the screen." (Id. ¶ 5.) Defendant argues that Derrick's four-screen shaker configuration, coupled with a fluid/gas separation chamber, anticipates Claim 16, rendering it invalid under 35 U.S.C. § 102. (Dkt. # 113 at 18–19.) Below is Derrick Figure 23, which depicts "a schematic view of a vibratory screening machine, a blower used to create suction, and a system for separating particles and liquid from air before the particles and liquid enter the blower." (Derrick ¶ 43.)



(Derrick, Fig. 23.)

Specifically, Defendant argues that Derrick anticipates Claim 16, because: (1) it discloses undulating screens for separating drill cuttings and drilling fluid within a shaker; (2) it discloses a pressure differential generator that pulls air or vapor through screen 4, but does not create a pressure differential for screens 1, 2, or 3; (3) it discloses sumps located below screens, which are configured to collect the air or vapor and the drilling fluid passing through the screens; and (4) it discloses a cyclone separator **234**, external to the vibratory screening machine, which functions as the degassing chamber in Claim 16 of the '288 Patent. (IPR Pet. at 23–26.)

After evaluating Claim 16 in light of Derrick, the PTAB decided not to institute IPR for Claim 16, after finding that the “cyclone separator **234** does not

collect all of the fluid in the sump of chamber **75**,” and concluding that Defendant had not demonstrated a reasonable likelihood that it would prevail in showing that claim 16 is anticipated by Derrick. (IPR Decision at 15.)

Plaintiff argues that cyclone separator **234** only receives “airborne liquid and fine particles” during an alternate suction cycle, and does not disclose a degassing chamber for collecting all of the air or vapor from the drilling fluid, as Claim 16 of the ’288 Patent does. (Dkt. # 121 at 11 (quoting Derrick ¶ 82).) Further, Peter Matthews, who provided an expert declaration on behalf of Defendant’s IPR Petition, stated the following when Plaintiff deposed him about cyclone separator **234**:

Q: But am I taking all of the fluid and putting it through the hydrocyclone?

A: No, just a portion of the steam [air or vapor and drilling fluid].

Q: How much, approximately?

A: Could be as much as 250 gallons a minute.

Q: What is that in percentage of how much is going –

A: Maybe a quarter.

Q: At most?

A: Yeah, average.

Q: About 75 percent is going through the screen and not going through the hydrocyclone?

A: Right.

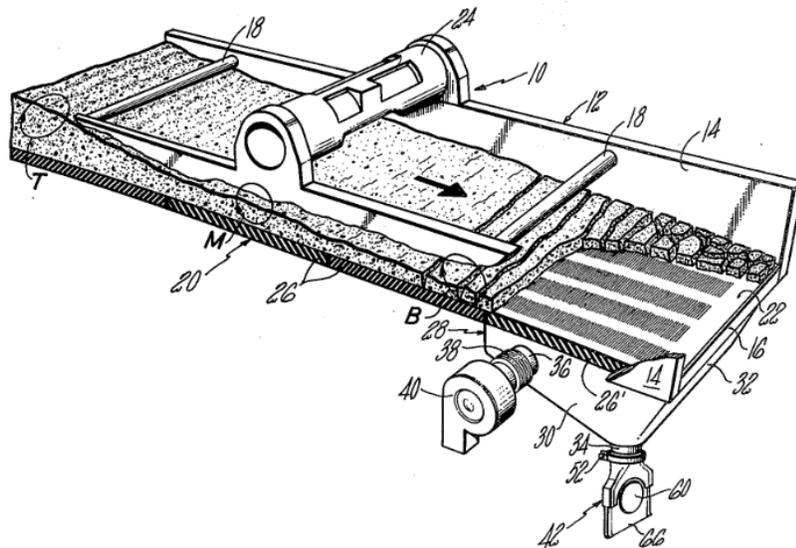
(“Matthews Dep.,” Dkt. # 121, Ex. 6 at 24:8–20.)

This Court agrees with Plaintiff and the PTAB that the function of hydrocyclone **234** in Derrick and the degassing chamber disclosed in Claim 16 of the ’288 Patent are different, and that Derrick does not teach the combination of

elements in Claim 16 as “arranged or combined in the same way as in the claim.” Net MoneyIN, 545 F.3d at 1369. Accordingly, Derrick does not anticipate Claim 16, and does not raise a substantial question as to the validity of Claim 16 of the ’288 Patent.

b. U.S. Pat. Pub. No. 3,929,642, as taught by U.S. Pat. No. 2,462,878

Defendant next argues that U.S. Pat. Pub. No. 3,929,642 of Ennis, et al. (“Ennis”), as taught by U.S. Pat. No. 2,462,878 of Logue (“Logue”) raises a substantial question as to the validity of Claim 16 of the ’288 Patent, because the combination renders Claim 16 obvious. (Dkt. # 113 at 14–16; IPR Pet. at 53–55.) Ennis describes a “dewatering system employing a vibrating screen deck [that] is provided with a vacuum chamber positioned beneath the downstream screen of the deck.” (“Ennis,” Dkt. # 113, Ex. F, at 1.) Below is Ennis, Figure 1, which depicts dewatering Unit 10.

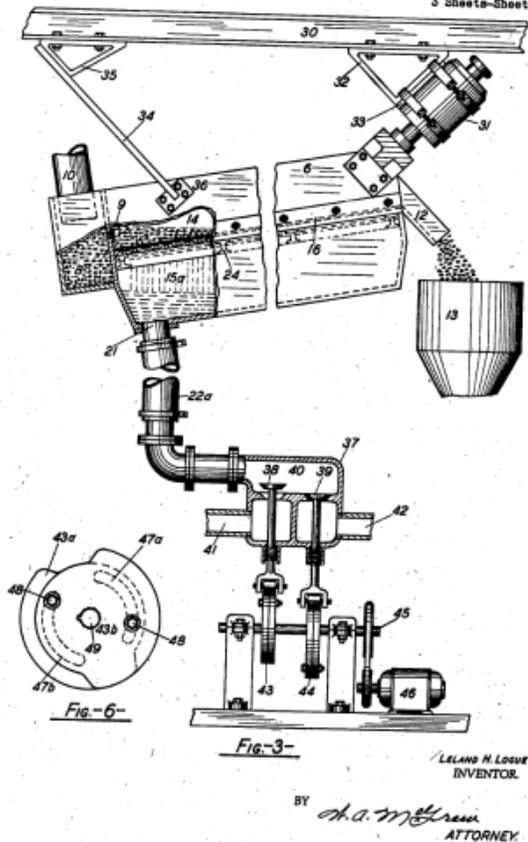


(Ennis, Fig. 1.)

The dewatering unit “takes the form of a generally U-shaped spillway inclined so as to receive the aqueous slurry of a solid granular material at the raised or elevated end thereof.” (Ennis, 3:42–45.) The screen deck **20** is comprised of “[a] plurality of individual screen panels **26**,” and can be arranged to provide a smooth-top or cascading screening surface. (*Id.* at 3:56–62.) A vacuum **28** is positioned below the “lower or downstream screen panel **26**’ of the deck **20** and is in communication with the underside of the panel which fully encloses and forms the top of the vacuum compartment.” (*Id.* at 4:25–29.) One side wall **30** of vacuum **28** is “provided with a cylindrical outlet pipe or port **36** suitably connected through a flexible conduit **38** with an exhaust fan **40** or similar device for drawing air from the” vacuum **28**. (*Id.* at 4:37–41.) “The outlet of the fluid discharge pipe **34** is sealed by means of a water discharge regulator **42** so that the air drawn from

the compartment by the exhaust fan **40** must enter the chamber through the screen panel **26'**.” (Id. at 4:42–45.)

The application for Logue, a “vibrating screen with vacuum control,” was filed on November 23, 1942. (“Logue,” Dkt. # 113, Ex. G.) Logue was designed to “provide simple, durable and efficient apparatus for conveying a wet body of finely divided solids and dewatering such solids during the conveying movement.” (Id. at 1:44–48.) Logue explains that “by applying different degrees of vacuum influences throughout a body of wet solids moving as a unit, an effective dewatering of the solids may be attained without impeding the impelling movement.” (Id. at 2:3–8.) Logue describes subjecting a wet body of finely divided solids deposited on a filter to “intermittent vacuum influences.” (Id. at 7:47–56.) Below is Logue, Figures 3 and 6, which depict a side view illustration of the embodiment of the invention.



(Logue, Figs. 3, 6.)

In Logue, a discharge opening **21** sits at the lower end of compartment **15a**, the lowest compartment of the shaker, which delivers any liquid collected from the solids into conduit **22a**, connected with mechanism **37**. (Logue 5:56–60.) Mechanism **37** applies intermittent suction to conduit **22a** by opening and closing valves **38** and **39**, which control the opening of suction passage **41** and low pressure air opening **42**. (*Id.* at 5:61–69.) When valve **38** is open and valve **39** is

sealed, the contents of compartment **15a** are drawn out through suction passage **41** until compartment **15a** is empty. (Id. at 6:1–8.) When valve **39** is open and valve **38** is sealed, low pressure air is supplied into compartment **15a**. (Id. at 6:8–12.)

Defendant argues that Claim 16 of the '288 Patent is invalid for obviousness, because Ennis in view of Logue discloses each of the limitations in Claim 16. (Dkt. # 113 at 14–16; IPR Pet. at 53–55.) Specifically, Defendant maintains that: (1) the plurality of screen panels **26** disclosed in Ennis teaches the first screen in Claim 16 of the '288 Patent (IPR Pet. at 53); (2) the exhaust fan **40** disclosed in Ennis, which applies a vacuum by way of vacuum chamber **28** to a portion of the plurality of screen panels **26** (specifically **26'**) teaches the second limitation of Claim 16, which uses a pressure differential generator to pull air or vapor through the first screen without creating the same differential above and below the second screen (id. at 54); (3) the vacuum force applied by exhaust fan **40** in Ennis causes water to be drawn from the material and through the screen **26'** and collect at the bottom of the vacuum compartment, teaching the third limitation of Claim 16, which discloses that a sump located below the first screen collects the air, vapor, and drilling fluid that passes through the first screen (id. at 54); finally, (4) the external vacuum chamber disclosed by Logue teaches the fourth limitation of Claim 16, which discloses a degassing chamber in fluid communication with the

pressure differential generator and the sump located externally to the shaker (id. at 54–55.)

Similarly, Mr. Matthews’ expert report to the PTAB argued that to a Person of Ordinary Skill in the Art (“POSITA”) at the time Ennis was invented, “it would be obvious to combine Ennis with well-known degassing devices such as that in Logue” to provide degassing, if necessary. (“Matthews Decl., Dkt. # 113, Ex. N, ¶ 54.) Further, Mathews reported that it would have been obvious to a POSITA “to modify the slurry screening apparatus of Ennis [in light of Logue] to include a degassing chamber and to control the pressure differential across the screens individually for the purpose of treating larger amounts of material, enhancing control and further drying the discharged material.” (Id. ¶ 56 (citing Logue at 1:6–12.) Accordingly, Matthews argues that

[b]ecause both Ennis and Logue involve separating fluid from solids in a slurry, and both disclose and require the cuttings to travel across the screens, it would have been obvious to a POSITA at the time of the invention to combine the device in Ennis with the modification in Logue of controlling the pressure under one or more screens to prevent the stalling of solids on the screens.

(Matthews Decl., at ¶ 56.)

The PTAB determined that it would institute IPR as to Claim 16 on this basis, after finding that “[o]n the current record, [FPUSA] has demonstrated a reasonable likelihood that it will prevail in showing that claim 16 would have been obvious over Ennis in view of Logue. (IPR Decision at 28.)

Plaintiff's Response argues that Ennis in view of Logue does not raise a substantial question as to the validity of Claim 16 for two reasons: (1) the devices taught in Ennis and Logue are not directed to separating drilling fluid from drill cuttings (Dkt. # 121 at 9–10); and (2) neither Ennis nor Logue discloses the degassing chamber for the purpose of separating drilling fluid and air or vapor (id. at 11).

Based upon the materials before the Court, the Court finds that neither Ennis nor Logue is designed to separate drilling fluid from drill cuttings and other solids for the purpose of preserving the valued fluid; rather, Ennis and Logue teach a method for separating water from a valued solid. For example, Ennis states that it is designed for “processing and handling of aggregate materials such as sand, gravel, or crushed stone, as well as in related industries such as the coal, slag, iron ore, phosphate, potash, primary metal and related chemical industries,” which are extracted using water, but later require “a separation or dewatering” to separate the desired solids from the water or other liquid used to extract it. (Ennis at 1:12–22.) Ennis emphasizes that it teaches a process which “significantly reduces the free moisture content of the solid particulate material discharged therefrom.” (Id. at 2:18–20 (emphasis added).) Likewise, Logue “relates to the art of filtering liquids from finely divided solids and more particularly relates to methods and means for dewatering bodies of finely divided solids.” (Logue at 1:1–4.) Mr. Matthews

acknowledged in his deposition that Logue is a dewatering device designed to separate water from solids. (Matthews Dep. at 53:3–54:13.) Conversely, the '288 Patent presents a method for “the separation of drilling fluid from drill cuttings and further maintain an effective flow of drill cuttings off the shaker.” ('288 Patent, Abstract.)

Additionally, it does not appear obvious that the external vacuum chamber disclosed by Logue, which drains the water from shaker compartment **15a** and draws air into the shaker system, teaches the fourth limitation of Claim 16. Rather, the degassing chamber in Claim 16 provides a system for separating the vapors from the drilling fluids collecting in the degassing chamber. ('288 Patent at 9:23–24.) The degassing chamber disclosed in the '288 Patent permits the vapors collected from the drilling fluid to be released or further processed, and permits the fluid collecting in the chamber to be degassed partially or fully, and either recovered or directed to a mud tank for further processing. (*Id.* at 9:25–27, 33–36.) This function, collecting and removing vapors from drilling fluid, appears entirely different than the function taught by Logue, described above.

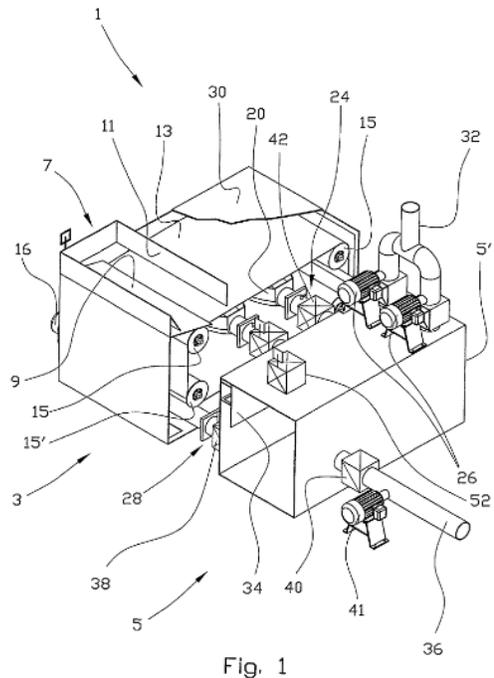
At this stage, it does not appear that the scope and content of Ennis in view of Logue would have been obvious to a person of ordinary skill in the art at the time Claim 16 of the '288 Patent was issued. *See Abbott Labs.*, 452 F.3d at 1336. Accordingly, Plaintiff has met its burden to demonstrate that the invalidity

defense “lacks substantial merit,” and the preliminary injunction should not be dissolved on this basis. Entegris, 490 F.3d at 1352.

c. U.S. Pat. Pub. No. 8,746,460

Defendant argues that U.S. Pat. Pub. No. 8,746,460 of Vasshus, et al. (“Vasshus”) raises a substantial question as to the validity of Claim 16 of the ’288 Patent, because it anticipates claim 16. (Dkt. # 113 at 13–14; IPR Pet. at 36–38.) The provisional Vasshus application was filed on June 26, 2006, approximately three months before the provisional application for the ’288 Patent was filed. (“Vasshus,” Dkt. # 113, Ex. E, at 1.) Vasshus discloses an “apparatus and a method for sieving a material such as, but not limited to, a drilling fluid containing drilling mud and drilled particles or cuttings, and separating liquid and gas which are liberated from the material.” (Id. ¶ 1:16–18.) Vasshus explains that “[d]rilling mud is typically cleaned by means of several types of separate equipment incorporated in a process chain, including vibrating sieving devices, normally called ‘shale shakers’ or ‘shakers’ and degassing units or so-called ‘degassers.’” (Id. at 1:38–42.) Vasshus distinguishes itself from “[c]onventional shale shakers, in which the material which is to be sieved, is passed across a sieving cloth fixedly clamped in a frame which is subjected to shaking motion, for example by means of an offset clump weight,” and criticizes that such traditional devices are noisy and

“transmit substantial vibrations to the base of the device.” (Id. at 1:54–59.) Below is Figure 1 of Vasshus, which shows a “partially cut away view . . . of a sieving and fluid separation apparatus.” (Vasshus at 4:16–18.)



(Vasshus, Fig. 1.)

In Figure 1, the sieving unit **3** and fluid separation unit **5** are connected; each is intended to be a fluid-tight vessel. (Id. at 4:36–39; 2:55–56.) Sieving unit **3** contains a first stationary sieving device **9**, and a sieving element **13**, which “is formed by an endless sieving cloth which is arranged to be rotated around a pair of upper turning rollers **15** and a pair of lower turning rollers **15’**.” (Id. at 4:45–4:51.) The drilled material conveyed across sieving unit **13** falls off and is conveyed via a drain tray not shown here. (Id. at 6:49–53.)

Below sieving element **13** are two identical suction nozzles **20**, each of which is connected to pipe arrangement **24** capable of creating fluid communication between sieving unit **3** and fluid separation unit **5**. (Vasshus at 4:63–67; 5:25–30.) Fluid, comprised of drilling fluid, gasses, and air, is drawn through sieving element **13** by suction nozzle **20**, through pipe arrangement **24** and into separator plate **34** of fluid separation unit **5**, where the liquid and gasses will be separated. (Id. at 6:9–12.) Fluid that is not captured by suction nozzle **20** and falls into the bottom of sieving unit **3** is transported into separator plate **34** via pipe arrangement **28**; this is powered by a separate pump. (Id. at 6:17–20.) Once fluid is contained in separator plate **34**, suction pumps **26** pull fluid in the gas or vapor phase into the ventilation system **32**, while pump **41** pulls the liquid into the drainpipe arrangement **36**. (Id. at 6:10–27.)

Defendant argues that Vasshus anticipates each of the limitations of Claim 16, rendering it invalid under 35 U.S.C. § 102. (Dkt. # 113 at 13–14.) Specifically, Defendant argues that Vasshus discloses: (1) a sieving element with an upper and lower side designed to screen out slurry (Dkt. # 113 at 13–14; IPR Pet. at 37); (2) a vacuum creating a pressure differential across sieving element **13** which is not created across sieving device **9**, and which assists in fluid recovery (Dkt. # 113 at 14; IPR Pet. at 37); (3) pipe arrangement **28**, which conveys the fluid into fluid separation unit **5** using a pump, and trough-like elements **22**, which

convey the vapor or drilling fluid to fluid separation unit **5** (IPR Pet. at 37–38); and (4) a fluid/gas separation unit external to the “shaker” which meets this Court’s preliminary construction of the degassing chamber limitation, which requires only that “drilling fluid is separated from residual air or gas” (Dkt. # 113 at 14 (quoting Dkt. # 47 at 17–19); IPR Pet. at 38.)

The PTAB determined that it would institute IPR as to Claim 16 after noting that Defendant asserted: (1) Vasshus’ sieving element **13** corresponds to the “first screen” in Claim 16, and sieving device **9** corresponds to the “second screen” limitation in Claim 16 (IPR Dec. at 20); (2) Vasshus’ pumps **26** correspond to the “pressure differential generator” in Claim 16 (*id.*); (3) trough-like elements **22** convey the air, vapor, and drilling fluid to fluid separation unit **5** sufficient to disclose the “sump” in Claim 16 (*id.* at 20–21); and (4) Vasshus’ fluid separation unit **5** satisfies the claimed “degassing chamber” in Claim 16 (*id.* at 21).

Plaintiff argues that Defendant’s claim must fail, because Vasshus does not teach the elements as arranged in Claim 16. As explained above, “[b]ecause the hallmark of anticipation is prior invention, the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements ‘arranged as in the claim.’” Net MoneyIN, 545 F.3d at 1369.

Plaintiff argues that Vasshus does not disclose the first element of Claim 16. (Dkt. # 121 at 12–13.) Vasshus teaches a rotating-belt system, or endless sieving element, combined with a stationary sieving element, that may be subject to high frequency oscillations produced by acoustic oscillations.⁵ (Vasshus at 3:55–58.) The acoustic oscillations are not necessary to the operation of Vasshus. (Id. at 3:53–54.) Conversely, the '288 Patent teaches a “vibrating sieve-like table upon which returning used drilling mud is deposited and through which substantially cleaner drilling mud emerges.” (Dkt. # 121 at 12–13 (quoting '288 Patent at 1:64–67).) The vibration of the sieve is necessary to the operation of the '288 Patent. Accordingly, while the sieving elements disclosed in Vasshus and the first and second screens disclosed in Claim 16 both separate drill cuttings and fluid from drilling mud, they do so by different means; sieving element **13** functions does not disclose the first and second screens in Claim 16.

At the hearing, Plaintiff’s counsel also distinguished the nature of the fluid-tight vessel in Vasshus, which allows for application of a single pressure differential, from the sump and pressure differential device in Claim 16 of the '288 Patent. Further, the manner in which fluid is drawn from the sieving devices in Vasshus differs from the manner in which fluid is drawn from the shaker screens in Claim 16. The pumps **26** in Vasshus draw at least a portion of the fluid from the

⁵ Mr. Matthews also testified in his deposition that Vasshus teaches a belt system. (Matthews Dep. at 41:17–25.)

slurry into fluid separation unit **5** by means of suction nozzle **20** through pipe arrangement **24**. Vasshus discloses that the remaining drilling fluid is not drawn away from the wet drill cuttings by a pressure differential, but is filtered by the rotation of the sieving cloth, collected in the bottom of sieving unit **3**, and transported into separator plate **34** via pipe arrangement **28**, which is powered by a separate pump. This is unlike the pressure differential generator in Claim 16, which does not collect fluid from the wet drill cuttings using suction nozzles, but rather creates a pressure differential on an entire screen installed on top of a sump, which is then connected to the degassing chamber. The shale shaker taught by the '288 patent is not fully enclosed and could potentially accommodate multiple sumps generating various pressure differentials, whereas Vasshus teaches a fluid-tight vessel, minimizing the possibility that multiple pressure differentials would be utilized.

Accordingly, the Court finds at this stage that the function of the stationary sieving element **13** in Vasshus is different from the "first" screen disclosed in Claim 16 of the '288 Patent. Further, the Court finds that the function of suction nozzle **20** and the two methods by which fluids are collected to be transported into the degassing chamber in Vasshus are different from combination of the sump and pressure differential generator used to draw fluids into the degassing chamber as disclosed in Claim 16 of the '288 Patent. Accordingly,

Vasshus does not teach the combination of elements in Claim 16 as “arranged or combined in the same way as in the claim.” Net MoneyIN, 545 F.3d at 1369. Therefore, Vasshus does not anticipate Claim 16, and does not raise a substantial question as to the validity of Claim 16 of the ’288 Patent.

5. Conclusion

Defendant has asserted three invalidity defenses which Plaintiff has demonstrated “lack[] substantial merit,” and Defendant has accordingly not cast sufficient doubt on the validity of Claim 16 of the ’288 Patent. Genetech, 108 F.3d at 1364. The Court’s previous determination regarding direct infringement with respect to Claim 16 of the ’288 Patent remains unchanged. Accordingly, Plaintiff continues to make a sufficient showing of a likelihood of success on the merits, and this factor continues to weigh in favor of the issuance of a preliminary injunction.

II. Irreparable Harm

The Court previously found that Plaintiff would be irreparably harmed in the absence of an injunction. (Dkt. # 89 at 30.) Defendant’s Motion to Dissolve the Injunction does not further discuss this factor. (See Dkt. # 113.) The Court notes, however, that FPM has entered bankruptcy proceedings since the Court last

considered these factors.⁶ (Dkt. # 109.) This impacts the likelihood that Defendant would not be able to satisfy a judgment, increasing the weight of possible irreparable harm to the Plaintiff. Celsis In Vitro, Inc. v. CellzDirect, Inc., 664 F.3d 922, 930 (Fed. Cir. 2012).

III. Balance of Equities

The Court previously found that the balance of equities factor favors neither Plaintiff nor Defendant, and that neither party had a clear advantage with respect to this factor. (Dkt. # 89 at 34.) Defendant's Motion to Dissolve the Injunction does not further discuss this factor. (See Dkt. # 113.) Notably,

IV. Public Interest

In the absence of other relevant concerns, "the public interest is best served by enforcing patents that are likely valid and infringed." Abbott Labs. v. Andrx Pharm., Inc., 452 F.3d 1331, 1348 (Fed. Cir. 2006). The Court previously found that Defendant did not demonstrate the existence of any relevant concerns regarding the public interest, and that the public interest weighed in favor of granting an injunction. (Dkt. # 89 at 35.) Defendant's Motion to Dissolve the Injunction does not further discuss this factor, and the Court's prior analysis remains unchanged. (See Dkt. # 113.)

⁶ The Court instituted a stay pursuant to section 362(a)(6) of the United States Bankruptcy Code. (Dkt. # 110.) United States Bankruptcy Judge Brenda T. Rhodes issued an order modifying the automatic stay to permit Defendant to file the instant motion only. (Dkt. # 113, Ex. 1.)

VI. Conclusion

For the reasons stated above, Defendant's Motion to Dissolve the Preliminary Injunction (Dkt. # 113) is **DENIED**. This Court's preliminary injunction of November 4, 2015, remains in effect.

IT IS SO ORDERED.

DATED: San Antonio, Texas, October 17, 2016.

A handwritten signature in black ink, appearing to read 'David Alan Ezra', is written over a horizontal line. The signature is stylized and cursive.

David Alan Ezra
Senior United States District Judge