

SITRICK* INVALIDITY OF AN ENABLED GENERIC CLAIM

Harold C. Wegner**

In *Sitrick v. Dreamworks, LLC*, __ F.3d __ (Fed. Cir. 2008)(Moore, J.) (*attached*), a generic claim fully enabled for a preferred embodiment was nevertheless struck down for invalidity under 35 USC § 112, ¶ 1, because *other* embodiments within the genus were not enabled, creating a conflict with a separate line of case law manifested by *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333 (Fed. Cir. 2003)(Rader, J.). *Sitrick* also perpetuates a conflict a long line of Supreme Court precedent manifested by teachings from *Deering v. Winona Harvester Works*, 155 U.S. 286 (1894); and *Essex Razor Blade Corp. v. Gillette Safety Razor Co.*, 299 U.S. 94 (1936).

In a nutshell, *Sitrick* denies validity of a generic claim fully enabled for its preferred embodiment where the claim uses terminology open to include *other* not yet enabled embodiments. See § II, *Essence of the Sitrick Ruling*. In contrast to *Sitrick*, early Supreme Court precedent has expressed approval for broad generic protection for a pioneer inventor who has provided only a limited scope of enablement, including examples Elias Howe's sewing machine needle and King C. Gillette's safety razor. See § III, *Court Recognition of Broad, Generic Protection*. The Court has referred to the individual "pennies" made by Howe as collectively creating a large sum, while opening the door to others to benefit from his creation. The Howe-Gillette examples may indeed be seen as the model for the scientific

* Discussion draft for circulation and comment. *Draft dated* February 10, 2008. The comments made in this paper reflect the personal views of the author and do not necessarily represent the views of any colleague, organization or client thereof.

** Former Professor of Law and Director of the Intellectual Property Law Program, George Washington University law School. Partner, Foley & Lardner LLP. [hwegner@foley.com].

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laboratories of academic research and startups where only a modest enablement may be offered for pioneers on a unit basis, but which overall financial remuneration to keep the engines of academic research humming. *See* § IV, *Penny by Penny Model for Bio- and Nanotechnology*. Already, there has been a critical review of *Sitrick* by a thoughtful academic; *see* § V, *Professor Crouch Questions Sitrick* (discussing Dennis Crouch, *CAFC Continues to Expand Doctrine of Full Scope Enablement*, Patently O [February 4, 2008] (*attached*)).

Sitrick is philosophically in line with the “possession” and “written description” line of case law perhaps best exemplified by the *Enzo* case, where a generic claim was denied validity on the basis of a lack of representative exemplary support, which is now reprised at the Federal Circuit in *In re Kubin*, Fed. Cir. App. No. 2008-1184; it is also followed in the more recent 4-1 *per curiam* affirmance on reconsideration of an Examiner reversal in *Bakshi*, which may be called “Kubin II”. *See* § VI, *The PTO in Kubin and Bakshi Follow Enzo*.

It is now time for a broader public policy debate over the issues exemplified in *Sitrick*, some of which are perhaps better addressed through reform of the legislative reform proposals now in Congress, as well as better business practices in the academic licensing arena. And, the conflict between panel opinions continues, which may well be revisited once again in the pending *Kubin* appeal to the Federal Circuit. *See* § VII, *Conclusion*.

II. ESSENCE OF THE *SITRICK* RULING

In essence, *Sitrick* voids any generic claim that is fully enabled as to a preferred embodiment, but includes *other* embodiments not yet enabled:

“The full scope of the claimed invention must be enabled.” *Sitrick*, ___ F.3d at ___ (citing *Auto. Techs. Int’l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1285 (Fed.Cir.2007).” Citing *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244 (Fed. Cir. 2003), the court concludes that “[t]he rationale for this statutory requirement is straightforward. Enabling the full scope of each claim is ‘part of the *quid pro quo* of the patent bargain.’” *Sitrick*, ___ F.3d at ___.

The panel warns prospective generic patentees against broad claiming: “A patentee who chooses broad claim language must make sure the broad claims are fully enabled. ‘The scope of the claims must be less than or equal to the scope of the enablement’ to ‘ensure[] that the public knowledge is enriched by the patent specification to a degree at least commensurate with the scope of the claims.’” *Sitrick*, ___ F.3d at ___ (quoting *Nat’l Recovery Techs., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1195-96 (Fed.Cir.1999)).

III. COURT RECOGNITION OF BROAD, GENERIC PROTECTION

Sitrick is difficult to reconcile with Supreme Court foundational precedent:

The Supreme Court recognition of the importance of the penny by penny profitability of Elias Howe’s sewing needle for the sewing machine industry that was made in the first half of the nineteenth century stood as a model by the Supreme Court for broad claiming well into the twentieth century as seen from *Essex Razor Blade*. Nearly fifty years after Howe’s patent was granted, the Supreme Court had pointed out in *Deering v. Winona Harvester* that “[Howe’s]

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invention of a needle with the eye near the point is the basis of all [commercial] sewing machines []; but the methods of operating such a needle are many, and if Howe had been obliged to make his own method a part of every claim in which the needle was an element his patent would have been practically worthless.” *Deering v. Winona Harvester*, 155 U.S. at 302 (discussing *Howe v. Williams*, 12 F.Cas. 689 (D. Mass. 1863)).

Elias Howe is pointed out as an example for broad protection for the patent to the modern safety razor of King C. Gillette in the *Essex Razor Blade* case; in sustaining the patent, the Court observed that “King C. Gillette accomplished a major advance in the art when he conceived a double-edged blade so thin and flexible as to require external support to give rigidity to its cutting edge and a safety razor embodying such a blade. ... He claimed ‘as a new article of manufacture a detachable razor-blade of such thinness and flexibility as to require external support and give rigidity to its cutting edge.’” *Essex Razor Blade*, 299 U.S. at 95-96. Lower tribunals had sustained the validity of the patent, *Essex Razor Blade*, 299 U.S. at 96 n. 4 (citing *Gillette Safety Razor Co. v. Clark Blade & Razor Co.*, 187 F. 149, 149 (C.C.D.N.J. 1911), *aff’d*, 194 F. 421 (3d Cir. 1912)).

As observed by Professor Merges, “[t]he *Gillette* case illustrates that a patent’s specification need not point out precisely how to make every device that would fall within its claims. Disclosure of an inventive concept or principle, whose precise contours are defined by the claims, is enough.” Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 Colum. L. Rev. 839, 846 (1990)(footnotes omitted).

Modern precedent following the Supreme Court is manifested in Judge Rader’s statement in 2003 that “[i]mprovement and selection inventions are

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ubiquitous in patent law; such developments do not alone cast doubt on enablement of the original invention.” *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1340 (Fed. Cir. 2003)(Rader, J.), citing *Hormone Research Found., Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1568 (Fed.Cir.1990), citing *In re Hogan*, 559 F.2d 595 (CCPA 1977). Thus, “[i]n general, few patented inventions are an immediate commercial success. Rather, most inventions require further development to achieve commercial success. Thus, additional inventive work does not alone show nonenablement.” *Id.*

In the case of Hogan’s pioneer invention of polypropylene discussed in *Hormone Research*:

“[The applicant] disclosed, as the only then existing way to make such a polymer [in his original 1953 application], a [specific] method of making the crystalline form. To now say that [the applicant] should have disclosed in 1953 the amorphous form which on this record did not exist until 1962, would be to impose an impossible burden on inventors and thus on the patent system. There cannot, in an effective patent system, be such a burden placed on the right to broad claims. To restrict appellants to the [specific] crystalline form disclosed, under such circumstances, would be *a poor way to stimulate invention, and particularly to discourage its early disclosure.*”

Hormone Research, 904 F.2d at 1568 (quoting *In re Hogan*, 559 F.2d 595, 601-02 (CCPA 1977))(emphasis added).

IV. PENNY BY PENNY MODEL FOR BIO- AND NANOTECHNOLOGY

A pioneer inventor who is given broad protection is able to dominate an industry for many years. This is indeed critical to biotechnology particularly in the university setting, where a brilliant professor may come up with a strong theoretical basis for a new technology and have but one experiment carried out to

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provided limited enablement. But, *given* exposition of his concept, large numbers of industry members will pounce on the idea and create myriad embodiments that will bring the professor-inventor's idea to commercial fruition. Without a broad patent right, the academic's idea is commercially worthless. Properly licensed to the industry, the academic institution may receive pennies on the dollar, but the total amount may be huge: The cost to each of the commercial entities licensing the invention contributes to the academic institution, while improvement patents provide an exclusive basis for the individually developed – and separately patentable – embodiments.

The Supreme Court in the nineteenth century observed the merits of the system of a broad reward to a pioneer patentee, noting that the pioneer invention of the modern sewing machine needle amassed a fortune for Elias Howe on a penny by penny scale. The importance of permitting a pioneer inventor such as Howe to obtain a modest royalty – “if but one cent from each [patented] needle”, was emphasized by Justice Woodruff in reflecting years later upon Howe's success:

“Elias Howe obtained a patent for what had never before been used in the construction of the sewing-machine – for a needle having its eye at the point; a very simple thing. He might have found an individual using one of these needles, and brought an action against him; but of what consequence would have been the damage in a single case? However, to Elias Howe it was of immense importance – an importance which was illustrated in the large fortune which I believe he realized as the result of his ingenuity; that the patent was his, and that all who attempted to use it might know that they were using a thing of which he was the patentee. ... [The patentee here seeks to] be protected that he might, as Elias Howe did, if it is but one cent from each needle, derive, as the product or the result of his invention, that one cent, and thereby by the accumulation of cents, derive the profit to which he is entitled.”

Hawes v. Gage, 11 F.Cas. 867 (1871)(Woodruff, J.)(charging jury).

V. PROFESSOR CROUCH QUESTIONS *SITRICK*

The most common claim form to a new product recites one or more elements preceded by the “comprising” term – an “open” claim that is generic to any embodiment that includes the recited elements *and any and all other* embodiments that include as yet unforeseen and nonenabled embodiments that also include the recited elements. Virtually *any* “open” claim of this type will necessarily include unforeseen and nonenabled embodiments. Professor Crouch questions whether such classic “open” claims can be considered to survive an invalidity attack under the rationale of *Sitrick*:

Professor Crouch notes that “[i]t is easy to criticize patentees who attempt to enforce broad claims supported only by a narrow disclosure. ... However, the ‘full scope’ doctrine has serious deficiencies.”

Turning to the common usage of “comprising” terminology, Prof. Crouch points out that”

“The most notable [deficiencies of the *Sitrick* line of cases] are the potentially chaotic results from applying the doctrine to claims that include the comprising transition language. The problem arises because the comprising transition allows a claim implicitly encompass a wide variety of add on limitations that might be found in an infringing device. *See, for example Automotive Technologies Int’l, Inc. v. BMW of North America, Inc.*, 501 F.3d 1274 (Fed. Cir. 2007)(Lourie, J.)] (claim scope that implicitly covered both mechanical and electrical sensor was not enabled by description of mechanical sensor); *Liebel-Flarsheim [Co. v. Medrad, Inc.]*, 481 F.3d 1371 (Fed. Cir. 2007)(Lourie, J.)](claim scope that implicitly covered both jacketed and jacket-free needle holders was not enabled by description of jacketed needle holders).”

VI. THE PTO IN *KUBIN* AND *BAKSHI* FOLLOW *ENZO*

The *Sitrick* case is philosophically in line with the “possession” and “written description” line of case law perhaps best exemplified by *Enzo Biochem. Inc. v. Gen-Probe Inc.*, 323 F.3d 956 (Fed. Cir. 2002), where a generic claim is denied validity on the basis of a lack of representative exemplary support. The *Enzo* case law line has been adopted by the PTO in several recent opinions, including *Ex parte Kubin*, 83 USPQ2d 1410 (PTO Bd. App. & Int. 2007)](precedential), and an expanded panel in *Ex parte Bakshi*, 2008 WL 258367 (PTO Bd. Pat. App. & Int. 2008)(Fleming, Chief APJ, Grimes, Green, Linck, JJ.)(per curiam), that on reconsideration repudiated a prior panel reversal of the Examiner, as pointed out in a dissent from the *per curiam* affirmance; *see Bakshi* (Adams, APJ, dissenting). Two days after the *Bakshi* affirmance, an appeal at the Federal Circuit was docketed in *In re Kubin*, Fed. Cir. App. No. 2008-1184, making it likely that before the end of 2008 at least a panel if not an *en banc* Federal Circuit will have the opportunity to revisit *Enzo*.

Applying the rationale of *Kubin* to the controversy in *Bakshi*, the enlarged panel of the Board restated the law of enablement as interpreted by the Board:

“Section 112 ¶ 1 requires an applicant to ‘provide sufficient written description to show one of skill in the art that the inventor possessed the claimed invention at the time of filing.’ *University of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 927 (Fed. Cir. 2004). Possession must be commensurate with the full scope of the claims. *See, e.g., LizardTech, Inc. v. Earth Resource Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005) (while ‘examples explicitly covering the full scope of the claim language’ typically will not be required, a sufficient number of representative species must be included ‘to demonstrate that the patentee possessed the full scope of the [claimed] invention’).

“Many cases have addressed adequacy of written description in the context of biotechnology inventions. *See, e.g., Enzo Biochem. Inc. v. Gen-Probe Inc.*, 323 F.3d 956 (Fed. Cir. 2002); *University of California v. Eli Lilly & Co.*, 119 F.3d

1559 (Fed. Cir. 1997); *Ex parte Kubin*, [83 USPQ2d 1410 (PTO Bd. App. & Int. 2007)] (precedential). The legal analyses applied in those cases apply equally to chemical cases, such as this one. *See, e. g., Rochester*, 358 F.3d at 925-26; *Lilly*, 119 F.3d at 1568 (‘written description of an invention involving a chemical genus ... ‘requires a precise definition, such as by structure, formula, [or] chemical name,’ of the claimed subject matter sufficient to distinguish it from other materials’). Likewise, the analyses apply to methods as well as compositions of matter. *Rochester*, 358 F.3d at 926. Possession may not be shown by merely describing how to obtain possession of members of the claimed genus or how to identify their common structural features. *See Rochester*, 358 F.3d at 927. Thus, the inclusion of screening methods is not enough to meet the written description requirement.

“While ‘the written description requirement can in some cases be satisfied by functional description,’ that is true only if ‘there is also a structure-function relationship known to those of ordinary skill in the art.’ *In re Wallach*, 378 F.3d 1330, 1335 (Fed. Cir. 2004). In this case, Appellants have failed to establish such a relationship was known for the broadly claimed subject matter, other than for that of formula I. Given the broad scope of the claims and lack of guidance regarding the identity of compounds outside of formula I, we find the claims would not have been adequately described to show possession of their full scope.”

Bakshi (internal citations omitted; emphasis supplied).

VII. CONCLUSION

To be sure, there are manifestly conflicting policies that have grown up in just the past generation. Whereas giving pennies to a Howe for his sewing machine needle hardly dented the profitability of Singer or other sewing machine inventors who followed in his wake, the modern era of stacking royalty payments and the absence of strong means to police weak patents have created severe problems for many companies. The answer to royalty stacking may be to employ more aggressive counsel who will license only *necessary* and truly pioneer inventions and to fight patent enforcement actions and not to succumb to what

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should be the unnecessary licensing of inventions for experimental development purposes. See Andrew S. Baluch, *Relating the Two Experimental Uses in Patent Law: Inventor's Negation and Infringer's Defense*, 87 B.U. L. Rev. 213, 243-44 (2007). Perhaps even more important is a reform of the fraying system of patent justice through providing an administrative patent revocation system and also focusing all patent enforcement actions on trial judges who have experience in patents. It is perhaps as a result of the shortcomings of the modern patent system in these unrelated areas that has created a motive force to emasculate generic protection as in *Sitrick*. Yet, *Sitrick* and the panel precedent from 2007 that are noted by Professor Crouch represent but one line of case law that is in square conflict both with the Supreme Court precedent that permitted Elias Howe and King C. Gillette to prosper and the underpinnings of academic licensing programs for bio- and nanotechnology research – and with continuing panel precedent at the Federal Circuit manifested by *CFMT v. Yieldup*.

As Congress mulls what it purports to be comprehensive patent reform, it *does* touch upon administrative patent revocation as one of the elements needed for the current problem, but leaves untouched the more pressing challenge of court reform at the trial level, while a better understanding of business practices is imperative for the licensing community to avoid the serious problem of royalty stacking. In any event, resolution of the conflicting lines of precedent is needed, perhaps in *Kubin* if not a later case.

FROM PROF. DENNIS CROUCH, *PATENTLY O* (FEBRUARY 4, 2008):

CAFC Continues to Expand Doctrine of Full Scope Enablement ^[*]

Sitrick v. Dreamworks ([Fed. Cir. 2008](#))

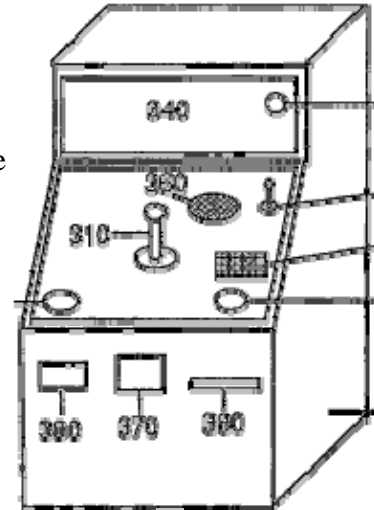
Sitrick's patented invention involves a method for a integrating user-generated audio and visual effects into a video game or movie. The solo-inventor sued Dreamworks and other defendants who use the "ReVoice Studio" software to allow users to add their own voice to the imagery. The issue on appeal is whether the asserted claims are enabled under 35 U.S.C. 112 ¶ 1.

Full Scope Enablement: Although loosely tied to the patent statute — the enablement requirement continues to grow and develop through Federal Circuit panel opinions. Generally, the "requirement is satisfied when one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation."

When analyzing enablement, the court looks to ensure that the "full scope of the invention" is enabled — and thus looking beyond whether the particular accused design is enabled. The "full scope" doctrine has recently been applied by the Federal Circuit to invalidate several patents. (See below)

Broad Claim Narrow Disclosure: It is easy to criticize patentees who attempt to enforce broad claims supported only by a narrow disclosure. This is especially true in cases such as Liebel's where the claim scope had been expanded well after filing the original application. (i.e., "late claiming").

However, the "full scope" doctrine has serious deficiencies. The most notable are the potentially chaotic results from applying the doctrine to claims that include the comprising transition language. The problem arises because the comprising transition allows a claim implicitly encompass a wide variety of add on limitations that might be found in an infringing device. *See, for example Automotive Technologies Int'l v. BMW* (Fed. Cir. 2007) (claim scope that implicitly covered both mechanical and electrical sensor was not enabled by description of mechanical sensor); *Liebel-Flarsheim v. Medrad* (Fed. Cir. 2007) (claim scope that implicitly covered both jacketed and jacket-free needle holders was not enabled by description of jacketed needle holders).



[*] This document is taken from *Patently O*, with some deletions. The full text is available at <http://www.patentlyo.com/patent/2008/02/enablement-cont.html>. [HCW]

Here, the asserted claims were construed as covering both movies and video games. Thus, the patent must enable both types of applications. Here, the CAFC confirmed that Sitrick had failed to enable its use in movies — and thus that the claims are not fully enabled.

Buyer Beware: As with other recent enablement cases, this one may be best seen through the lens of the claim construction process. In each case, the patentee requested (or at least did not challenge) broad claim construction. Consequently, the court was not sympathetic to enablement arguments that could have been avoided by a narrower construction of the claims. This line of thinking was spelled out by Judge Laurie in the Liebel case: “The irony of this situation is that Liebel successfully pressed to have its claims include a jacketless system, but, having won that battle, it then had to show that such a claim was fully enabled, a challenge it could not meet. The motto, “beware of what one asks for,” might be applicable here.” This *buyer beware* theory is also useful to break the potential analytical morass of full scope enablement of claims drafted with comprising transitions.

Don’t Begin with the Specification: One aspect of enablement that is continually bothersome. In the opinion, the court noted that “enablement analysis begins with the disclosure in the specification.” That approach unduly confuses enablement with written description. Rather, I would contend that enablement should begin with the knowledge of one skilled in the art and move forward from there. ***

United States Court of Appeals for the Federal Circuit

2007-1174

DAVID H. SITRICK,

Plaintiff-Appellant,

v.

DREAMWORKS, LLC, NEW LINE PRODUCTIONS, INC.,
NEW LINE HOME ENTERTAINMENT, INC., WARNER MUSIC GROUP, INC.,
WARNER BROS. RECORDS, INC., WARNER-ELEKTRA-ATLANTIC CORPORATION,
WARNER HM VIDEO (doing business as Warner Reprise Video),
WARNER BROTHERS ENTERTAINMENT INCORPORATED,
and WARNER BROTHERS PICTURES,

Defendants-Appellees.

Appeal from the United States District Court for the Central District of California in case no. 03-CV-4265, Judge Stephen V. Wilson.

DECIDED: February 1, 2008

Before MICHEL, Chief Judge, RADER and MOORE, Circuit Judges.

MOORE, Circuit Judge.

David Sitrick (Sitrick) appeals the United States District Court for the Central District of California's judgment that the asserted claims of his two patents are invalid for lack of enablement, indefinite, and not infringed. He also appeals the order of the United States District Court for the Northern District of Illinois transferring the case to the Central District of California. We affirm the Central District of California's judgment

of invalidity and conclude that Sitrick waived his objection to the Northern District of Illinois's transfer order.

BACKGROUND

The technology at issue involves integrating a user's audio signal or visual image into a pre-existing video game or movie. Sitrick is an individual inventor and owner of U.S. Patent Nos. 5,553,864 (the '864 patent) and 6,425,825 (the '825 patent). The Defendants produce and distribute DVDs of various movies, some of which include the allegedly infringing product, known as "ReVoice Studio." The ReVoice Studio feature allows users to combine their own voice with pre-existing video images stored on the DVD.

Sitrick sued Defendants in the Northern District of Illinois, alleging infringement of claims 54 and 56 of the '864 patent and claims 1, 20, 49, 57, 58, 62, 64, and 69 of the '825 patent. The Northern District of Illinois granted Defendants' motion under 14 U.S.C. § 1404(a) to transfer the case to the Central District of California (district court). After the case was transferred, the first and only time Sitrick challenged the transfer order arose in this appeal. Sitrick filed multiple amended complaints after transfer, which acknowledge that "[v]enue properly lies [in the Central District of California]."

Defendants filed a motion for claim construction and moved for summary judgment on a number of grounds. The district court engaged a Special Master, who issued a report on each of the pending motions. The Special Master's cursory report regarding Defendants' motion for summary judgment of invalidity for lack of enablement included no discussion of the asserted claims. The Special Master nonetheless

recommended denying the motion because neither Sitrick nor Defendants presented specific evidence regarding the level of ordinary skill in the art.

The district court declined to adopt the Special Master's recommendation and in a detailed and thorough opinion granted summary judgment in favor of Defendants because it found all asserted claims of the '864 and '825 patents invalid for lack of enablement as to movies. Sitrick v. Dreamworks, LLC, No. 03-4265 (N.D. Cal. July 21, 2006). The district court did not reach the issue of whether the asserted claims would have been enabled for video games. Id. at 73. The district court also found the claims of the '825 patent invalid for indefiniteness, and found there existed no triable issue of fact as to infringement of claim 54 of the '864 patent. Id. at 17, 84-91.

The asserted claims encompass both video games and movies. The '864 patent states that the system "provides an environment whereby a user can create a video or other image . . . and whereby the user created image . . . can be communicated and integrated into the audiovisual presentation, and game play of a video game." '864 patent col.1 ll.54-62. The '825 patent states that "[t]his invention relates to predefined video and audiovisual presentations such as movies and video games." '825 patent col.1 ll.9-10. The Summary of the Invention provides that the "present invention encompasses an entertainment system capable of integrating images into a predefined audiovisual presentation" through use of a "controller" said to receive audio and video signals from any source and that "analyzes the audio and video signals and modifies the signals to integrate the user image into the audiovisual presentation." Id. at col.2 ll.30-45. Despite his arguments on appeal, Sitrick has conceded that the asserted claims encompass movies. He convinced the district court to deny Defendants' request

that the claims be limited to video games. And he accused Defendants' movies of infringing the claims by incorporating computer-generated effects during production. The '825 patent characterizes as "crude" prior art systems in amusement parks that use a "blue screen, [and] a compositing computer system" to incorporate audience members into a movie clip. Id. at col.2 ll.20-27. In such prior art, the "audience member's image [merely] overlays the movie clip and is not blended into the movie." Id. According to the '825 patent, "[u]sing this approach, there can be no realistic interaction between the audience member and the cast in the movie clip." Id.

The patents also describe "user images" that consist of audio information. The '864 patent states that "[a]udio signals go beyond simple spoken words and phrases." '864 patent col.6 ll.3-4. The audio signals "can be analyzed and processed to generate voice parameters which are then used by the system to synthetically generate a voice corresponding to and sounding like the audio signals from which the voice parameters were modeled (e.g., the actual user's voice, tonal quality, pitch, etc.)." Id. at col.6 ll.4-9. The Special Master construed the term "voice synthesizer" in claim 54 to mean "any computerized electronic apparatus for the production and control of a voice sound." The district court rejected this construction because it read out of the claim the limitation "that the synthesizer must 'model' the inputted voice sample." Sitrick, slip op. at 11. Thus, the district court determined that claim 54 of the '864 patent is directed to "voice parameter data [that is] used as a model for a voice synthesizer to produce an entirely synthetic voice." Id. at 68.

Claim 56 of the '864 patent and all asserted claims of the '825 patent require "integration" or "substitution" of a visual or audio "user image" in place of a "pre-defined

image,” “pre-defined character image,” or “character function” within a “presentation.” The patents describe this “integration” or “substitution” as being performed by an “Intercept Adapter Interface System” (IAIS), which the district court found “the most fundamental part of both the ’864 and ’825 patents.” Id. at 56. In a video game system, the IAIS functions to intercept address signals coming from the video game apparatus and going to the game card or storage card. If address signals correspond to the character functions that are to be replaced with a user image, the IAIS reconfigures the signals so that when the signal gets to the game card or storage card, the user image is substituted for the predefined character image.

The patents state that they are applicable to any “audiovisual image source [that] provides an audiovisual presentation output such as video (video cassette player or recorder, cable or broadcast television, laser disk, audiovisual, digital video tape, formatted image data [e.g., PICT]), audio tape or disk, which output is coupled to a display.” ’825 patent col.17 ll.3-8. The IAIS “analyzes the output of the image source . . . and identifies and intercepts selected predefined character images of the audiovisual presentation” and substitutes a user image. Id. at ll.9-13. The IAIS “allows for the replacement of the user image for the pre-existing character image in the presentation. Thus, it is the IAIS that operationalizes the invention.” Sitrick, slip op. at 56. Unlike video games, “[p]re-existing movies do not employ discrete address and control signals, or any other means for requesting separate image segments to be assembled into the character or the overall image that appear within each frame of the presentation.” Id. at 59.

Id. at col.22 ll.47-54 (emphasis added). The district court found that Defendants' experts demonstrated that none of the identified analysis techniques for selecting, analyzing, or identifying character functions or intercepting character signals in video games would work for movies. Sitrick, slip op. at 58. The district court determined that:

Movies do not have easily separable character functions, as video games do, and the patent does not explain how the IAIS either selects the character functions to be substituted for a user image or intercepts signals in order to effectuate that substitution.

While in video games character functions are separately retrieved by discrete address signals, and the motion of each is controlled by discrete control signals, character images in pre-existing movies and animations are inseparable from other surrounding images. Pre-existing movies do not employ discrete address and control signals, or any other means for requesting separate image segments to be assembled into the character or the overall image that appear within each frame of the presentation. Rather, as Defendants' expert, Dr. Phillips, explains:

Video signals representing pre-existing movies and animation are either digital or analog representations of a series of frames, wherein each frame comprises pixel or scanline information of the overall image in the frame. In contrast to a video game, with a dynamically created scenario, motion in a movie is provided by slightly varying the image of the character in each frame such that the continuous display of the frames creates the illusion of motion

(Tiu Decl., Ex. L at 346.) The patent never discusses how a character function or predefined image can be identified and separately carved out of a frame.

Id. at 58-59. Defendants' experts opined that given the technological differences between video games and movies, the disclosure regarding video games did not enable use of the IAIS to substitute or integrate user images in movies.

The district court also determined that Sitrick presented no evidence to contradict Defendants' evidence that the '864 patent failed to enable modeling a voice for

reproduction by a voice synthesizer, as required by claim 54. Because the district court concluded that Sitrick had failed to introduce evidence that raised any genuine issue of material fact regarding enablement of the substitution or integration of user images in movies, or regarding enablement of the modeling of a voice, the district court granted summary judgment of no enablement.

DISCUSSION

I.

We review the grant of summary judgment de novo. Liebel-Flarsheim Co. v. Medrad, Inc., 481 F.3d 1371, 1377 (Fed. Cir. 2007). Summary judgment is appropriate “if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(c). Whether a claim satisfies the enablement requirement of 35 U.S.C. § 112, ¶ 1 is a question of law, reviewed de novo, based on underlying facts, which are reviewed for clear error. AK Steel Corp. v. Sollac, 344 F.3d 1234, 1238-39 (Fed. Cir. 2003). The evidentiary burden to show facts supporting a conclusion of invalidity is one of clear and convincing evidence because a patent is presumed valid. Id. The “enablement requirement is satisfied when one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation.” Id. at 1244.

The full scope of the claimed invention must be enabled. See Auto. Techs. Int’l, Inc. v. BMW of N. Am., Inc., 501 F.3d 1274, 1285 (Fed. Cir. 2007). The rationale for this statutory requirement is straightforward. Enabling the full scope of each claim is “part of the quid pro quo of the patent bargain.” AK Steel, 344 F.3d at 1244. A patentee

who chooses broad claim language must make sure the broad claims are fully enabled. “The scope of the claims must be less than or equal to the scope of the enablement” to “ensure[] that the public knowledge is enriched by the patent specification to a degree at least commensurate with the scope of the claims.” Nat’l Recovery Techs., Inc. v. Magnetic Separation Sys., Inc., 166 F.3d 1190, 1195-96 (Fed. Cir. 1999).

The district court construed the asserted claims to include both video games and movies. Sitrick does not appeal this claim construction, but instead argues that the district court erred by concluding that for the purpose of determining enablement it could ignore the teachings of the patents related to video games. We disagree with Sitrick’s characterization of the district court’s opinion. The district court clearly considered the entire specification and all teachings related to video games, including all of the evidence regarding how one could substitute a user image for a pre-existing character image.

Because the asserted claims are broad enough to cover both movies and video games, the patents must enable both embodiments. See Auto. Techs. Int’l, 501 F.3d at 1285 (“Disclosure of only mechanical side impact sensors does not permit one skilled in the art to make and use the invention as broadly as it was claimed, which includes electronic side impact sensors.”). Even if the claims are enabled with respect to video games—an issue we need not decide—the claims are not enabled if the patents do not also enable for movies.

We are mindful that Defendants have the evidentiary burden to show facts supporting a conclusion of invalidity by clear and convincing evidence. AK Steel Corp., 344 F.3d at 1238-39. Here, Defendants met their evidentiary burden and showed that

Sitrick did not enable the full scope of the asserted claims. Defendants showed with clear and convincing evidence that one skilled in the art could not take the disclosure in the specification with respect to substitution or integration of user images in video games and substitute a user image for a pre-existing character image in movies without undue experimentation. Defendants supported their motion for summary judgment of invalidity by reference to the teachings of the specifications and the opinions of their two experts.

An enablement analysis begins with the disclosure in the specification. Neither patent specification in this case teaches how the substitution and integration of a user image would be accomplished in movies. Claim 56 of the '864 patent and claims 1, 20,¹ 49, 57, 58, 62, 64, and 69² of the '825 patent provide for the “integration” or “substitution” of a visual or audio “user image” in place of a “pre-defined character image” or “character function” within a “presentation” such as a motion picture. After thoroughly analyzing both patents, the district court determined that the specifications do not disclose how the IAIS or Controller 260C would function for movies. Sitrick, slip op. at 57. We agree. The patents do not teach how to implement the “intercept logic functioning” of Controller 260C in the context of movies. The patents do not teach how the IAIS and its Controller 260C would perform such necessary steps as “selecting” and “analyzing” the predefined character image in a movie, or “integrat[ing]” or “substituting”

¹ The district court adopted the Special Master’s finding that claim 56 of the '864 patent and claims 1 and 20 of the '825 patent employ means-plus-function clauses whose corresponding structure is the IAIS and its Controller 260C.

² Method claims 49, 57, 58, 62, 64, and 69 of the '825 patent provide for “selecting” a portion of a predefined “presentation,” analyzing that portion, and “integrating” or substituting a “user image” for a predefined image in the “presentation” based on the selection and analysis.

the image in movies. As the district court recognized, “[m]ovies do not have easily separable character functions, as video games do, and the patent does not explain how the IAIS either selects the character functions to be substituted for a user image or intercepts signals in order to effectuate the substitution.” Id. at 58.

Defendants’ two experts explained that one skilled in the art would not to be able to take the teachings regarding video games and apply them to movies. Both experts explained that movies and video games are technically different. The experts opined that the claims are not enabled because the analysis techniques described in the specification for identifying character functions or intercepting character signals have no relevance to movies. Defendants thus carried their burden of showing by clear and convincing evidence that the claims are not enabled for “integrating” or substituting a “user image” in movies. With respect to audio substitution, the district court determined that Defendants showed by clear, convincing, and undisputed evidence that it is difficult, if not impossible, to “isolate any one voice [from] the rest of the sounds” in soundtracks in pre-existing movies. Id. at 66.

Sitrick argues that the testimony of its expert, Dr. Vacroux, creates a genuine issue of material fact as to the enablement of visual substitutions for movies. The district court correctly held that Dr. Vacroux’s opinion regarding enablement did not raise a triable issue of fact because it was: (1) “conclusory” and “unsupported by any actual information,” and (2) presented by a person who “admitted to not being skilled in the art of movie making” Id. at 60-62. We agree. Conclusory expert assertions cannot raise triable issues of material fact on summary judgment. See Dynacore Holdings Corp. v. U.S. Philips Corp., 363 F.3d 1263, 1278 (Fed. Cir. 2004). Further, the

district court correctly pointed out that Dr. Vacroux acknowledged repeatedly that he did not have expertise in movies:

Q. Okay. From reading the patent and reading those many, many pages, would you be able to determine how to integrate a user image into a motion picture?

A. I think that someone more familiar with motion pictures than I am probably could, but I don't know if I could do it.

...

Q. Would you know how to modify the flowcharts such that the invention could be applied to motion pictures?

A. I already mentioned that motion pictures is not something that I'm familiar with.

Sitrick, slip op. at 60-61. Enablement is determined from the vantage point of one skilled in the art. AK Steel, 344 F.3d at 1244. The district court properly held that Dr. Vacroux's equivocations regarding whether someone skilled in the art could perform the claimed "integrat[ing]" and "substituting" in movies does not create a genuine issue of material fact.

II.

Sitrick argues that the district court erred in construing the phrase "voice synthesizer" in claim 54 of the '864 patent. Claim 54 reads as follows:

54. A method of integrating a user voice image into a presentation output, the method comprising the steps of:

sampling a user's voice;

analyzing the sampled user's voice to provide user voice parameter data representative of the user voice image;

storing the user voice parameter data;

synthesizing and interjecting the user's voice into the presentation output responsive to the user voice parameter data comprising the step of associating a particular predefined character image within the presentation with the user's voice so that when the particular predefined character is speaking, the user voice parameter data is input as a model to a voice synthesizer that effects the integration of the user's voice into the presentation output as associated with the predefined character image.

'864 patent col.35 ll.32-48 (emphasis added).

The district court construed claim 54 as requiring that voice parameter data be used as a model for a voice synthesizer to produce an entirely synthetic voice and not simply a playback of the user's sample. Sitrick argues that the district court incorrectly required the voice synthesizer to produce "new words that the user did not actually say." But the district court plainly stated that "the synthetic voice could say precisely what the user had said in the sample, and this would be within the claim, as long as the voice was not simply a playback of the user's sample but was generated from the sample and the extracted voice parameters." Sitrick, slip op. at 12 (emphasis in original). The district court's claim construction is correct in view of the claim language itself, requiring "the user voice parameter data [be] input as a model to a voice synthesizer." This construction is supported by the specification. '864 patent col.6 ll.4-9 (audio signals "can be analyzed and processed to generate voice parameters . . . to synthetically generate a voice corresponding to and sounding like the audio signals from which the voice parameters were modeled (e.g., the actual user's voice, tonal quality, pitch, etc.)"). Further, this construction is supported by Defendants' expert, who explained, "the voice qualities of a person . . . are difficult and problematic to map onto novel speech. I have found no discussion in these patents addressing these issues." Sitrick, slip op. at 68-69.

Applying the correct claim construction, the district court determined the '864 patent fails to enable the voice synthesis required by claim 54. Summary judgment that claim 54 is invalid for lack of enablement was entirely proper because Sitrick "presented

no evidence to contradict Defendants' argument regarding enablement for modeling a voice for reproduction by a voice synthesizer." Id. at 69.

III.

Sitrick also argues that the Northern District of Illinois improperly transferred the case to the Central District of California. After transfer, the only time Sitrick challenged the transfer order was in this appeal. Sitrick argues that this court has jurisdiction to review all final decisions in cases that arise under the patent laws. The waiver of an objection to a transfer order, however, is a procedural matter not unique to patent law, which we review under the law of the regional circuit where the appeal from the district court normally would lie. Randuit Corp. v. All States Plastic Mfg. Co., 744 F.2d 1564, 1574-75 (Fed. Cir. 1984); Riverwood Int'l Corp. v. R.A. Jones & Co., 324 F.3d 1346, 1352 (Fed. Cir. 2003) (“[W]e apply the law of the regional circuit to the procedural question of waiver”).

Sitrick's case was transferred from a district court within the Seventh Circuit to a district court within the Ninth Circuit. In the Ninth Circuit, objections to venue are waivable. See Costlow v. Weeks, 790 F.2d 1486, 1488 (9th Cir. 1986) (“A defendant must object to venue by motion or in his answer to the complaint or else his objection is waived.”) (citing Fed. R. Civ. P. 12(h)(1)).

Sitrick litigated his case in California for more than three years, and filed multiple amended complaints there, which acknowledge that “[v]enue properly lies [in the Central District of California].” Sitrick did not move to retransfer to the Northern District of Illinois or some other forum. Therefore, we determine that Sitrick waived his right to complain on appeal that the transfer motion should not have been granted.