

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

(Serial No. 11/386,211)

**IN RE W. DANIEL HILLIS, RODERICK A. HYDE,
NATHAN P. MYHRVOLD, CLARENCE T.
TEGREENE, and LOWELL L. WOOD, JR.**

2011-1401

Appeal from the United States Patent and Trademark
Office, Board of Patent Appeals and Interferences.

(Serial No. 11/386,227)

**IN RE W. DANIEL HILLIS, RODERICK A. HYDE,
NATHAN P. MYHRVOLD, CLARENCE T.
TEGREENE, and LOWELL L. WOOD, JR.**

2011-1402

Appeal from the United States Patent and Trademark
Office, Board of Patent Appeals and Interferences.

Decided: May 21, 2012

MANU J. TEJWANI, Intellectual Ventures, LLC, of Bellevue, Washington, for appellants. Of counsel was ROY P. DIAZ.

RAYMOND T. CHEN, Solicitor, United States Patent & Trademark Office, of Alexandria, Virginia, for appellee. With him on the brief were NATHAN K. KELLEY and LYNNE E. PETTIGREW, Associate Solicitors.

Before NEWMAN, MAYER, and DYK, *Circuit Judges*.

PER CURIAM.

Appellants W. Daniel Hillis, Roderick A. Hyde, Nathan P. Myhrvold, Clarence T. Tegreene, and Lowell L. Wood, Jr. (collectively “Hillis”) appeal a decision of the Board of Patent Appeals and Interferences (“Board”), rejecting all pending claims in U.S. Patent Application No. 11/386,211 (“the ’211 application”) for lack of enablement under 35 U.S.C. § 112. *Ex parte Hillis* (“’211 Board Decision”), No. 2010-000974, 2010 WL 3827101 (B.P.A.I. Sept. 29, 2010). Hillis also appeals a Board decision rejecting all pending claims in U.S. Patent Application No. 11/386,227 (“the ’227 application”) on the same grounds. *Ex parte Hillis* (“’227 Board Decision”), No. 2009-014972, 2010 WL 3827097 (B.P.A.I. Sept. 29, 2010). This opinion resolves both appeals. *We affirm* as to both.

BACKGROUND

The ’211 application and the ’227 application are related applications and share substantially similar specifications. The respective specifications include formulas that explain physical and optical characteristics of oscillators, otherwise described in the specification as self-resonant bodies. The specifications explain that when self-resonant bodies are grouped together, each self-

resonant body receives the energy it would receive if standing alone, for example from ambient light, as well as energy emitted from other nearby self-resonant bodies. The specifications further explain that the frequency response of each individual body, i.e., the light it produces in response to the light it receives, can change as a function of the spacing between it and other self-resonant bodies. The specification suggests that groups of self-resonant bodies (or oscillators) can be arranged in various ways so that the group as a whole takes on a particular optical characteristic, for example, that of a lens.

Claim 1 of the '211 application is the only pending independent claim in the '211 application. Claim 1 broadly covers optical components having an array of self-resonant bodies with a selected optical response:

1. An optical component having a selected optical response to excitation energy at a selected frequency, comprising:

an array of self resonant bodies, each of the self resonant bodies having a frequency line center substantially at the selected frequency, the self resonant bodies being arranged in a pattern corresponding to the selected optical response.

2011-1401 J.A. 58 ('211 application, claim 1).

The '227 application includes claims covering a method of controlling electromagnetic energy, and structures for interacting with electromagnetic energy. Claims 1 and 15 are representative:

1. A method of controlling electromagnetic energy, comprising:

positioning a first set of self resonant bodies in a first intercept location, the first set

of self resonant bodies having a first response characteristic relative to an interaction location;

positioning a second set of self resonant bodies in a second intercept location, the second set of self resonant bodies having a second response characteristic relative to the interaction location;

positioning a third set of self resonant bodies in a third intercept location, the third set of self resonant bodies having a third response characteristic relative to the interaction location; and

interacting with the electromagnetic energy at the interaction location.

15. A structure for interacting with electromagnetic energy, comprising:

a first layer including an arrangement of resonators each having a first principal resonant frequency, the first layer having a first response to the electromagnetic energy;

a second layer including an arrangement of resonators each having a second principal resonant frequency different from the first principal resonant frequency, the second layer having a second response to the electromagnetic energy; and

a third layer including an arrangement of resonators each having a third principal resonant frequency different from the first principal resonant frequency and the second principal resonant frequency, the

third layer having a third response to the electromagnetic energy;

wherein the first, second and third layers are relatively positioned to define a composite response to the electromagnetic energy that is a function of the first, second and third responses.

2011-1402 J.A. 59, 61 ('227 application, claims 1 and 15).

The examiner rejected claim 1 of the '211 application as anticipated by both U.S. Patent Application Publication SN 2006/0222288 ("Spoonhower") and U.S. Patent No. 6,734,465 ("Tasker"), and rejected all pending claims of both applications for lack of enablement. In its decision on the '211 application, the Board did not sustain the examiner's anticipation rejections under 35 U.S.C. § 102. The Board, however, affirmed the examiner's rejection of all pending claims for lack of enablement under section 112. Like the examiner, the Board found that the '211 specification "contains a 'well-written summary of college level optical physics courses and includes many of the basic equations and physical parameters taught in any electrical or optical engineering curriculum," but ultimately failed to make "a connection between the discussed theory and the structure recited in the pending claims that would enable the person having ordinary skill in the art to practice the invention." *'211 Board Decision*, 2010 WL 3827101, at *3. The Board affirmed the examiner's enablement rejection of all claims in the '227 application on the same grounds. *See '227 Board Decision*, 2011 WL 3827097, at *3. Hillis subsequently requested that the Board rehear both decisions and filed new evidence with both requests. The Board denied the respective requests after refusing in each case to consider newly submitted evidence that was not previously cited in

Hillis's respective appeal briefs or reply briefs to the Board. See *Ex parte Hillis*, No. 2010-000974, 2011 WL 585809 (B.P.A.I. Feb. 16, 2011) (citing 37 C.F.R. § 41.52); *Ex parte Hillis*, No. 2009-014972, 2011 WL 585797 (B.P.A.I. Feb. 17, 2011) (same). Hillis timely appealed both decisions. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

Enablement is a question of law, which we review de novo. *In re Swartz*, 232 F.3d 862, 863 (Fed. Cir. 2000). In appeals from the Board, questions of fact underlying the ultimate question of enablement are reviewed for substantial evidence. *Id.*

The enablement test determines “whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent [application] coupled with information known in the art without undue experimentation.” *United States v. Telectronics, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1988). The '211 and '227 applications, however, merely describe the well-known science of optical physics and suggest potential applications. The disclosure is not enough to enable the alleged inventions that are claimed in the respective applications. Such a disclosure does not describe how to create the optical component of the '211 application, create the structure of the '227 application, or perform the method of the '227 application.

Hillis argues that, under *In re Marzocchi*, 439 F.2d 220, 223 (CCPA 1971), the specifications presumptively comply with section 112's enablement requirement, and that the examiner and the Board did not accept the truth or accuracy of the respective disclosures without stating sufficient reasons for doing so. Hillis's reliance on *Marzocchi*, however, is misplaced. *Marzocchi* states that a

“disclosure which contains a teaching of the manner and process of making and using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as in compliance with the enabling requirement of the first paragraph of § 112 unless there is reason to doubt the objective truth of the statements contained therein.” *Id.* (emphasis omitted); *see also Manual of Patent Examination Procedure* (“MPEP”) § 2164.04 (8th ed., rev. 6, Sept. 2007). Here, the enablement rejections are based upon the lack of information “teaching . . . the manner and process of making and using the invention,” not a determination on the truthfulness of information that was disclosed. The rule of *Marzocchi* is simply irrelevant to the examiner’s and the Board’s enablement rejections.

With respect to the ’211 application, Hillis argues that Spoonhower and Tasker teach “self resonant bodies being arranged in a pattern corresponding to the selected optical response” as recited in claim 1. Thus, Hillis argues, when combined with the teachings of the prior art, the ’211 application enables the entirety of claim 1. “Although knowledge of one skilled in the art is indeed relevant, the novel aspect of an invention must be enabled in the patent.” *Auto. Techs. Int’l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1283 (Fed. Cir. 2007). In other words, “[i]t is the specification, not the knowledge of one skilled in the art, that must supply the novel aspects of an invention in order to constitute adequate enablement.” *Genentech, Inc. v. Novo Nordisk, A/S*, 108 F.3d 1361, 1366 (Fed. Cir. 1997). Here, even considering the knowledge of a skilled artisan, the specification does not enable.

Hillis further contends that the examiner and the Board erred in failing to evaluate the *Wands* factors. *See In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988) (listing

factors for determining whether a disclosure satisfies the enablement requirement); *see also* MPEP § 2164.01(a). We disagree. As the MPEP states, “it is not necessary to discuss each [*Wands*] factor in the . . . enablement rejection.” MPEP § 2164.04. Rather, the rejection “should focus on those factors, reasons, and evidence that lead [to] the [conclusion] that the specification fails to teach how to make and use the claimed invention without undue experimentation.” *Id.* (emphasis omitted). Although the examiner did not specifically cite the *Wands* factors, and the Board did not expressly identify the factors upon which it relied, it is evident that both the examiner’s analysis and the Board’s analysis were based on the factors most relevant to this case, that is, the lack of “direction or guidance presented” by the inventor, and the “absence of working examples” sufficient to connect the discussed theory to the recited claims. *Wands*, 858 F.2d at 737.

Hillis also argues that examiner failed to make a *prima facie* case for a lack of enablement. We have recently explained that the PTO meets its initial burden of setting forth a *prima facie* case by “adequately explain[ing] the shortcomings it perceives so that the applicant is properly notified and able to respond.” *In re Jung*, 637 F.3d 1356, 1362 (Fed. Cir. 2011) (alteration in original) (internal quotation marks omitted). For an enablement rejection, the PTO must “set[] forth a reasonable explanation as to why it believes that the scope of protection provided by that claim is not adequately enabled by the description of the invention.” *In re Wright*, 999 F.2d 1557, 1561-62 (Fed. Cir. 1993); *see also* MPEP § 2164.04. Here, the examiner’s rejections plainly indicated that more information on how to implement the invention was needed in order to close the gap between the “summary of college level optical physics” and the “broad reference to

some possible intended uses.” 2011-1401 J.A. 196-97; 2011-1402 J.A. 107-08. We find that the examiner reasonably explained the shortcomings of the '211 and '227 applications in a manner that was sufficient to allow Hillis to respond.

Finally, Hillis argues that the Board erred in not considering Hillis's additional evidence submitted for the first time in Hillis's respective requests for reconsideration. Unless a Board decision includes a new ground of rejection, an appellant may not provide additional evidence in a request for rehearing. 37 C.F.R. § 41.52(a)(1). Hillis's claims that the Board's decisions presented new grounds of rejections are without merit. Accordingly, we find no error in the Board's refusal to consider Hillis's evidence presented for the first time in Hillis's requests for reconsideration.

Hillis's remaining arguments are similarly without merit.