

Winning a Non-Obviousness Case at the Board

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1. Introduction

Obviousness has long been one of the hurdles patent applicants have to overcome to secure a patent on their inventions. Recent tightening of the obviousness determination by federal courts and the United States Patent and Trademark Office (USPTO) has raised the bar for showing an invention is not obvious. Patent applicants (and patent owners in the case of reexamination) seeking to traverse rejections by Examiners that their claimed inventions are obvious, increasingly find themselves on appeal to the Board of Patent Appeals and Interferences (BPAI or Board) -- the highest level of administrative review at the USPTO.² Winning a non-obviousness case at the Board is then essential for these Appellants.

An obviousness determination though is fairly complex. The determination may involve complex factual and legal analysis. Factors in this analysis stem from two seminal U.S. Supreme Court cases, *Graham v. Deere* and *KSR v. Teleflex*, and include a determination of the scope of the prior art, differences between prior art and the claimed invention, and level of skill in the art. Claims are construed under a broadest reasonable interpretation standard and a rationale for the obviousness determination must be set out by Examiners in their *prima facie* case.³ On appeal, Board practitioners find themselves looking even harder to identify ways to ratchet up argument and evidence. More difficult questions are being asked at case assessment. Which elements of an Examiner's obviousness determination should be attacked by argument? What evidence should be marshalled and for what purpose? How to bring into the record the perspective of one of ordinary skill in the art? What do Declarations in support of secondary considerations of non-obviousness need to contain to be successful?

This paper addresses these questions and looks at ways Appellants may best position themselves to win a non-obviousness case at the Board. Traditional and new strategies to overcome a non-obviousness rejection are discussed based on input from several BPAI judges and our own analysis of cases this year where Examiners were reversed. We met recently with several BPAI judges on effective ways to show non-obviousness and have incorporated their anecdotal feedback throughout this paper. We analyzed cases where Examiners' rejections were reversed by the BPAI on the grounds of non-obviousness. In particular, we analyze the specific bases for the reversal identified by the BPAI across all technologies and for technology sectors (biotech, chemical, electrical and mechanical) for 100 cases (See accompanying Appendix).

2. The *prima facie* case of obviousness

During patent examination, the USPTO bears the initial burden of presenting a *prima facie* case of unpatentability. *In re Glauq*, 283 F.3d 1335, 1338 (Fed. Cir. 2002); cf. *In re Piasecki*, 745 F.2d 1468, 1471-72 (Fed. Cir. 1984). A *prima facie* case is defined generally as: "Evidence good and sufficient on its face; such evidence as, in the judgment of the law, is sufficient to establish a given fact, or the group or chain of facts constituting the party's claim or defense, and which if not rebutted or contradicted is sufficient to sustain a judgment in favor of

the issue which it supports, but which may be contradicted by other evidence....” *Blacks Law Dictionary*, 1189-90 (6th ed., West 1990).

Obviousness is a question of law based on underlying factual inquiries. In putting forth a *prima facie* case, the USPTO serves as a factfinder and makes what are known as three *Graham* factual inquiries.⁴

The first step in the *Graham* obviousness analysis is to determine the scope and content of the prior art. The prior art includes patents and printed publications having effective dates prior to the date of invention of the patent at issue. The scope of the prior art includes references that are “from the same field of endeavor, regardless of the problem addressed, [or] reasonably pertinent to the particular problem with which the inventor is involved.” *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060 (Fed. Cir. 1992).

The second step of the *Graham* obviousness analysis is to determine the differences between the prior art and the claimed invention. This is performed by comparing the claimed invention to the prior art.

The third step is to determine the level of ordinary skill in the relevant art. The level of ordinary skill is determined from several factors, including the sophistication of the technology involved and the educational background of those active in the field. *Orthopedic Equipment Co. v. United States*, 702 F.2d 1005, 1011, 217 USPQ 193 (Fed. Cir. 1983); *Custom Accessories, Inc. v. Jeffrey-Allan Industries, Inc.*, 807 F.2d 955, 962, 1 USPQ2d 1196, 1201 (Fed. Cir. 1986); see also *In re GPAC Inc.*, 57 F.3d 1573, 1579, 35 USPQ2d 1116, 1121 (Fed. Cir. 1995). The level of ordinary skill is used to determine whether, given the prior art, the invention as a whole would have been obvious at the time that it was made.

After the above three fact inquiries have been made, a legal determination of obviousness is made. According to the Federal Circuit, “[w]hat matters in the § 103 obviousness determination is whether a person of ordinary skill in the art, having all the teachings of the [prior art] references before him, is able to produce the structure defined by the claim.” *Orthopedic*, 702 F.2d at 1013, 217 USPQ at 200. While rejecting a rigid approach relating to a finding of a teaching, suggestion or motivation, the Supreme Court recently stated that “there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

In formulating an obviousness conclusion, courts and the Board look for rationales that support the conclusion of obviousness. An articulation of a rationale is especially important when references or teachings are combined to render an invention obvious. An example of a rationale supporting obviousness based on a combination of references is when the references themselves teach, suggest or would motivate one to make such a combination. The Supreme Court though has made clear that this so-called TSM test is not exclusive and other rationales may be used to support a conclusion of obviousness. See *KSR*, 550 U.S. at 418.

Exemplary rationales in support of obviousness have been collected and promulgated by the USPTO in its Examination Guidelines. These rationales include but are not limited to:

“(A) Combining prior art elements according to known methods to yield predictable results;

(B) Simple substitution of one known element for another to obtain predictable results;

(C) Use of known technique to improve similar devices (methods, or products) in the same way;

(D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

(E) "Obvious to try" - choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

(F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art; and

(G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.”

(M.P.E.P. § 2141.III.)

When performing an obviousness analysis, secondary factors (objective evidence of nonobviousness) must be considered when any relevant evidence is present. *See Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538, 218 USPQ 871, 879 (Fed. Cir. 1983). Such evidence, sometimes referred to as "secondary considerations," may include evidence of commercial success, long-felt but unsolved needs, failure of others, and unexpected results. M.P.E.P. § 2141. For this evidence to be given substantial weight, there must be a nexus between the evidence and the merits of the claimed invention. *See Stratoflex*, 713 F.2d at 1539, 218 USPQ at 879.

Once the Examiner has made the *prima facie* case of obviousness, an Applicant may rebut by presenting arguments and evidence. The Applicant may point out errors in the *prima facie* case or present new evidence to show non-obviousness. M.P.E.P. § 2141.IV. With increased scrutiny occurring at the USPTO after the *KSR* decision, the question confronting many Applicants facing appeal to the Board is what strategies should be employed to best overcome an obviousness rejection?

3. Traversing the *prima facie* case of obviousness

a. Traditional Strategies

Traditional strategies for winning non-obviousness cases at the Board remain valid post-*KSR*. Appellants need to make sure claims are in excellent form for appeal and that no further amendments are needed. Claims should clearly recite features necessary to distinguish the claimed invention, as a whole, from the applied prior art. Appellants should take into account the broadest reasonable claim construction applied at the USPTO and ensure sufficient detail is recited to support a non-obviousness position before the Board.

It is worth noting that claims should also be scrutinized to make sure they are well-supported and definite, and in full compliance with 35 U.S.C. § 112.⁵ Recent precedential BPAI decisions, *Ex parte Catlin* and *Ex parte Rodriguez*, make clear that means-plus-function elements under 35 U.S.C. § 112(6) should be reviewed closely for enablement and definiteness.⁶ The claimed invention should also be reviewed to make sure eligible subject matter is clearly recited under 35 U.S.C. § 101. This scrutiny is important even if the Examiner has not made a rejection as the BPAI may raise such issues *sue sponte* and enter new grounds of rejection.⁷ To avoid new issues from arising, Appellants should be alert to how the Board may view the claimed subject matter, especially in areas like computer-related inventions where the law may be in flux or particularly fact-sensitive to different BPAI panels.⁸

Building a solid factual record during prosecution is important. Make sure detailed arguments traversing an obviousness rejection and supporting evidence are already before the Examiner *prior to* appeal. Introducing new evidence on appeal is difficult and generally not permitted unless the evidence places all claims in condition for allowance or the Appellant can show good and sufficient reasons why the evidence is necessary and was not able to be presented earlier. *See* 37 C.F.R. § 41.37.

Evidence to rebut a *prima facie* case of obviousness is usually submitted to the PTO in the form of affidavits or declarations under Rule 132 ("132 Declarations").⁹ Examples of the types of evidence that such affidavits or declarations present are: (1) "unexpectedly superior properties or advantages" of the claimed invention as compared with the prior art products or processes¹⁰; (2) commercial success, long-felt need and other "secondary considerations;" and (3) expert opinion evidence on the state of the art and obviousness.¹¹ Issues that must be considered when relying on such evidence include disclosure of any bias of the declarant and providing a nexus showing. The BPAI recently provided guidance on the expected showing of nexus between claimed subject matter and evidence that needs to be made in a precedential decision by an expanded panel in *Ex parte Jella*, 90 USPQ2d 1009 (BPAI 2008).

Appeal briefs need to be fully compliant with appeals and persuasive. The governing rules on appeal briefs are detailed and strictly construed. One should take care to review an appeal brief before filing and regularly check to make sure current rules and suggestions for compliance promulgated by the USPTO are followed. See, e.g., the "Guidance to Reduce non-Compliant Briefs," available at the USPTO website, Board of Patent Appeals and Interferences section.¹² Effective oral advocacy is also important especially when close technical distinctions are in play to distinguish the claimed invention and applied references.

b. Ratcheting Up the Non-obviousness Position

In addition to general best practices for appellate advocacy, specific opportunities do exist for strengthening a non-obviousness case before the Board. Based on our own practice, interviews with BPAI judges, and survey of recent BPAI decisions reversing Examiners on non-obviousness grounds, we identified several areas that lend themselves to further argument or evidence. These areas, where applicable, may be particularly fruitful ways to ratchet up a non-obviousness position before the BPAI. A balancing act is often required though, as additional risk or cost may be involved.

i. Technical Differences/Missing Element

Since an obviousness finding must be rooted in the factual determinations of *Graham v. Deere*, a strong way to ratchet up an attack is to clearly point out technical differences between a claimed invention and references relied upon by an Examiner. It is especially advantageous if Appellants can identify claimed elements missing in the references sufficient to create a non-obvious gap between the art and claimed invention.¹³ The question now is how to best amplify or make such a missing-elements showing. In our meetings with BPAI judges, it was clear that well-reasoned and well-drafted arguments are often more than sufficient to show a missing element. For cases where the technology or references are particular complex or poorly drafted, Declarations by experts or a person skilled in the art may be helpful to provide additional *factual* basis that shows an element is missing from the vantage of one of ordinary skill in the art. This may be especially true where a portion of a reference relied upon by an Examiner only has a vague, "black box" description and lacks detailed functionality or structure pertinent to the *Graham Deere* factual determination at hand.

Similarly, the BPAI judges suggested a good case of non-obviousness in high tech cases could be made by filing evidence of the level of skill in the art and showing based on that evidence, one of ordinary skill would not have been able to arrive at the claimed invention. See, e.g., *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 92 USPQ2d 1849 (Fed. Cir. 2009) (indicating evidence in support of rationale for non-obviousness may be particularly important in cases involving complex technology). This approach goes directly to the *Graham* factual inquires and provides additional evidence the Board can rely on in assessing and finding non-obviousness.

ii. Claim Construction

Appellants also may wish to consider taking more affirmative claim construction stances to further distinguish a claimed invention from applied art. BPAI judges indicated one item on their wish list and a way Appellants in obviousness cases could be more persuasive is to state claim constructions for their claimed invention on the record. For claim terms that are disputed by the Examiner, a clear and unequivocal claim construction by Appellant with a clear disavowal of other constructions may help persuade a skeptical BPAI panel. Of course, considerable judgment is involved as Applicants are generally reluctant to present such claim constructions and often need to balance any risks with other available options.

iii. Rationale

The Supreme Court in *KSR* made clear that an articulated rationale for a finding of obviousness must be presented. BPAI judges we spoke with emphasized one way to effectively rebut an Examiner's rationale is to challenge the sufficiency or basis of the rationale provided by the Examiner. Applicants can make this challenge with clear, well-reasoned argument explaining the lack of or insufficiency of an Examiner's rationale. Paying close attention to the facts and avoiding conclusory statements is more likely to be persuasive here. Our analysis of recent BPAI decisions indicated a remarkably high percentage of Examiner reversals (59%) on obviousness grounds was due to the absence or insufficiency of the articulated rationale. Indeed, this was the single largest basis for reversal in obviousness cases by the BPAI across all technologies.

iv. Teaching Away

Another line of attack that retains its vitality is to show a reference teaches away. Prior references as a whole need to be considered including aspects that teach away from a claimed invention. M.P.E.P. § 2141.03VI. BPAI judges emphasized a proper showing of a teaching away may help rebut a *prima facie* case of obviousness.¹⁴ However, they cautioned many Appellants incorrectly try to characterize references as "teaching away" when the references may be only referring to an example" or preferred embodiment and are not explicitly teaching away from a combination or obviousness rationale relied upon by the examiner. In many cases, Appellants will want to scrutinize a teaching away position carefully and support it with sound argument, legal research, and evidence if applicable rather than relying on a mere conclusory statement.

v. Intended Purpose/Principle of Operation

The USPTO and BPAI have long recognized as well that an Examiner's obviousness rejection cannot modify a reference such that it would render the prior art unsatisfactory for its intended purpose. M.P.E.P. § 2143.01(V). Similarly, references cannot be combined such that the basic principle of operation of a reference is changed. M.P.E.P. § 2143.01(VI). BPAI judges indicated to us a well-reasoned brief with clear argument may appropriately rely on these basis to show non-obviousness.¹⁵ Declarations under 37 C.F.R. § 132 were indicated as being particularly helpful in this instance to the extent they provide additional factual input evidencing such detrimental impact on a prior art teaching's purpose or operation.

4. Conclusion

With more rigorous review of non-obviousness, practitioners may need to ratchet up the level of attack and resources brought to bear to show non-obviousness. More effective argument and additional evidence may need to be marshalled while trying to minimize any prosecution history estoppel and unintended consequences. Our interviews with BPAI judges and review of BPAI cases suggest significant opportunities exist to argue against an Examiner's articulated

rationale for obviousness or point out missing elements in applied art. Presenting clear claim constructions or defining the level of skill in the art on the record in certain cases may also advance a non-obviousness position by helping the Board reverse the *Graham* factual inquiries. Traditional bases for non-obviousness, like teaching away and change of intended purpose, still retain their power as a way to rebut obviousness rejections.

The largely untested wildcard remains increased use of evidence like 132 Declarations. Our interviews with BPAI judges and review of BPAI cases suggested 132 Declarations may need to be used more often in cases to better show the perspective of one of ordinary skill in art upon the scope of art, differences with the claimed invention, and rationale for non-obviousness. Declarations can be effective to refute asserted combinations of references by showing a teaching away, change of intended purpose, or inoperative result. Even when independent experts are unavailable or too costly, BPAI judges indicated to us Declarations under 132 by individuals who may have bias, such as inventors or their co-workers, may still be helpful to present factual information, as long as the bias or relationship to Applicant is clear and they are part of a well-reasoned non-obvious case and not just conclusory in nature. Declarations under 132 need to be complete and well-drafted. Secondary considerations, such as long-felt need, commercial success, and unpredictable results, need to be proved with care. BPAI judges said they perceived Appellants too often failed to provide a clear nexus in Declarations attempting to show a secondary consideration of non-obviousness based on commercial success, unexpected results, or long-felt need.¹⁶

By ratcheting up argument and evidence, Board practitioners may find new ways to successfully persuade BPAI judges and traverse an Examiner's *prima facie* case on appeal.

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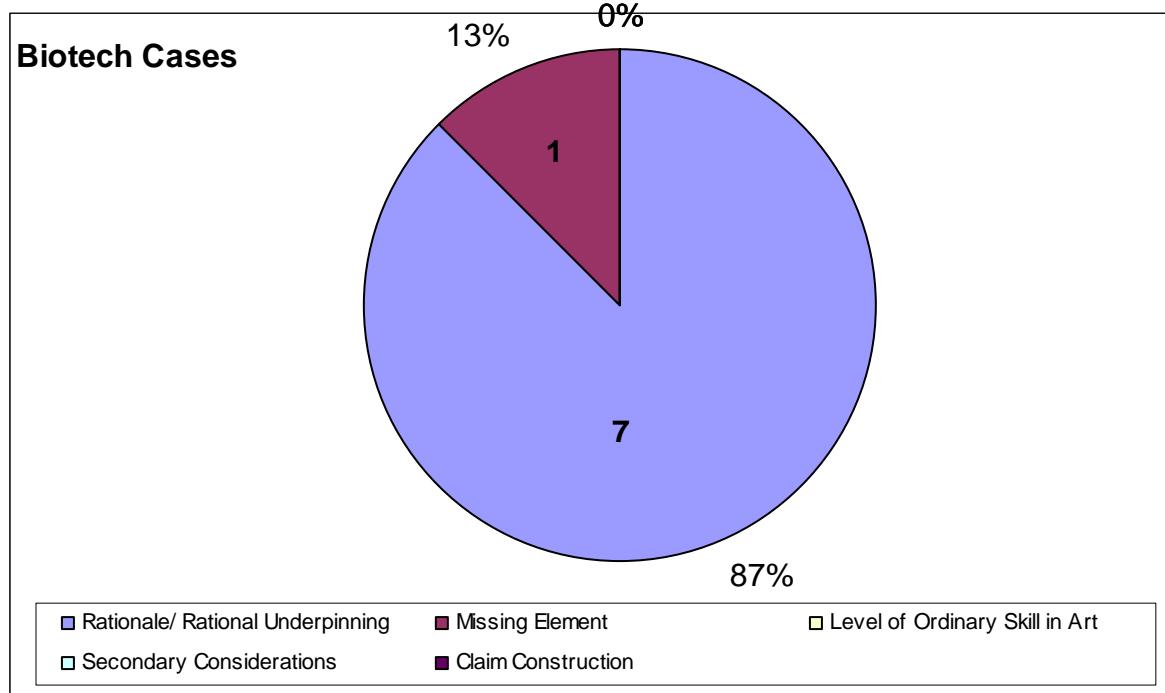
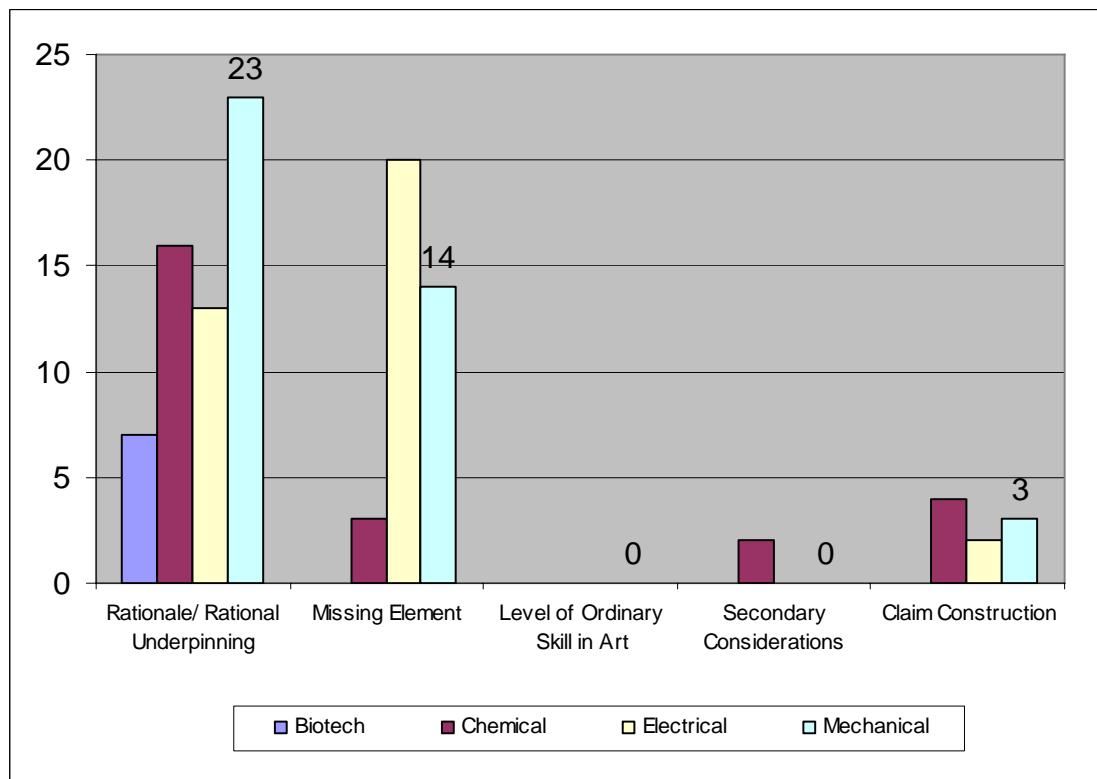
APPENDIX

Analysis of Recent BPAI Cases where Examiners were Reversed¹⁷

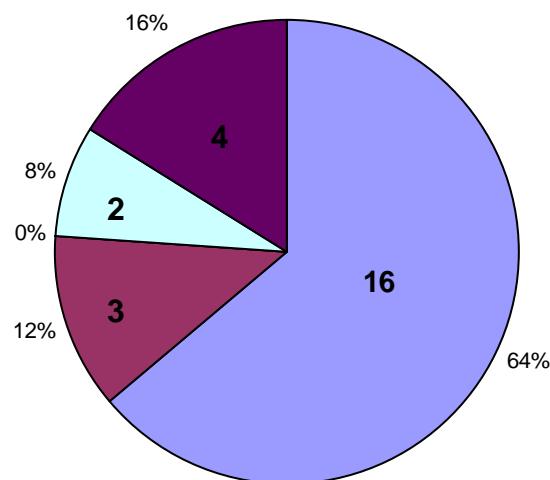
The following charts were developed based on a review of 100 cases decided by the Board of Patent Appeals and Interferences (BPAI) from January 20, 2010 to February 22, 2010 in which the BPAI had reversed the Examiner on the issue of obviousness. This sample of recent BPAI reversals indicates that across technology areas, the BPAI reversed the majority of the obviousness cases for either the Examiner's failure to articulate a reason with some rational underpinning for the obviousness combination or for a missing claim element. Specifically, for biotechnology and chemical cases, the majority of reversals were due to the Examiner's failure to articulate a rationale for the obviousness combination. For mechanical and electrical technology cases, BPAI reversals were based on a lack of rationale or a missing element. Also, nearly all of the appeals in this sample set lacked Rule 132 declarations - suggesting the BPAI continues to see relatively little additional evidence being presented to show non-obviousness.

Table
Bases for Reversal of Examiner Cited by Board in 100 Cases Decided
Between January 20, 2010 to February 22, 2010

Cited Basis for Reversal on 103	Biotech	Chemical	Electrical	Mechanical	Total
Rationale/ Rational Underpinning	7	16	13	23	59
Missing Element	1	3	20	14	38
Level of Ordinary Skill in Art	0	0	0	0	0
Secondary Considerations	0	2	0	0	2
Claim Construction	0	4	2	3	9
Totals	8	25	35	40	108 ¹⁸

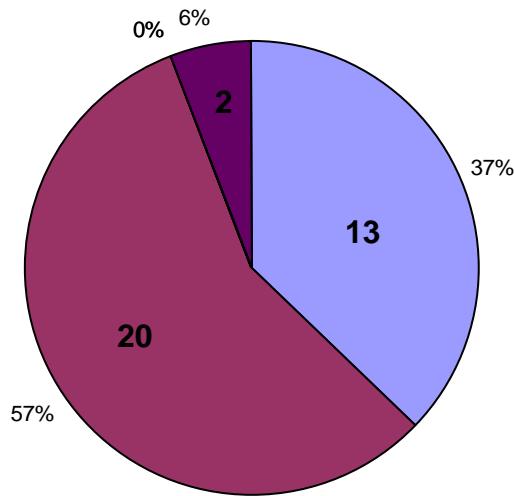


Chemical Cases

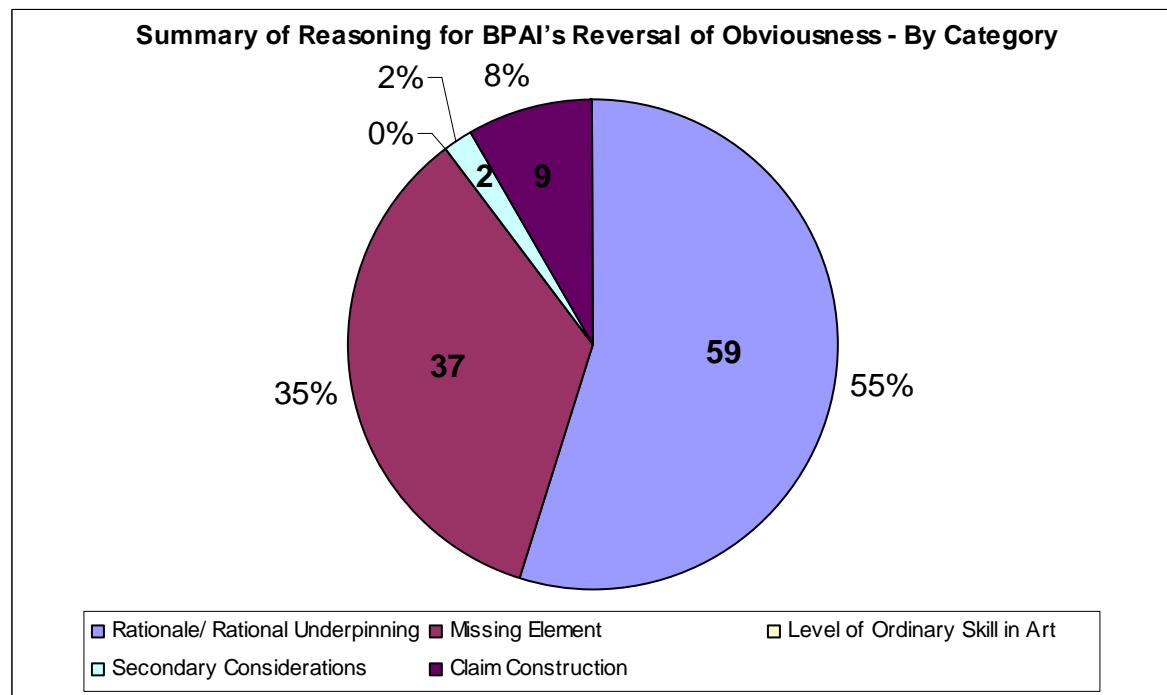
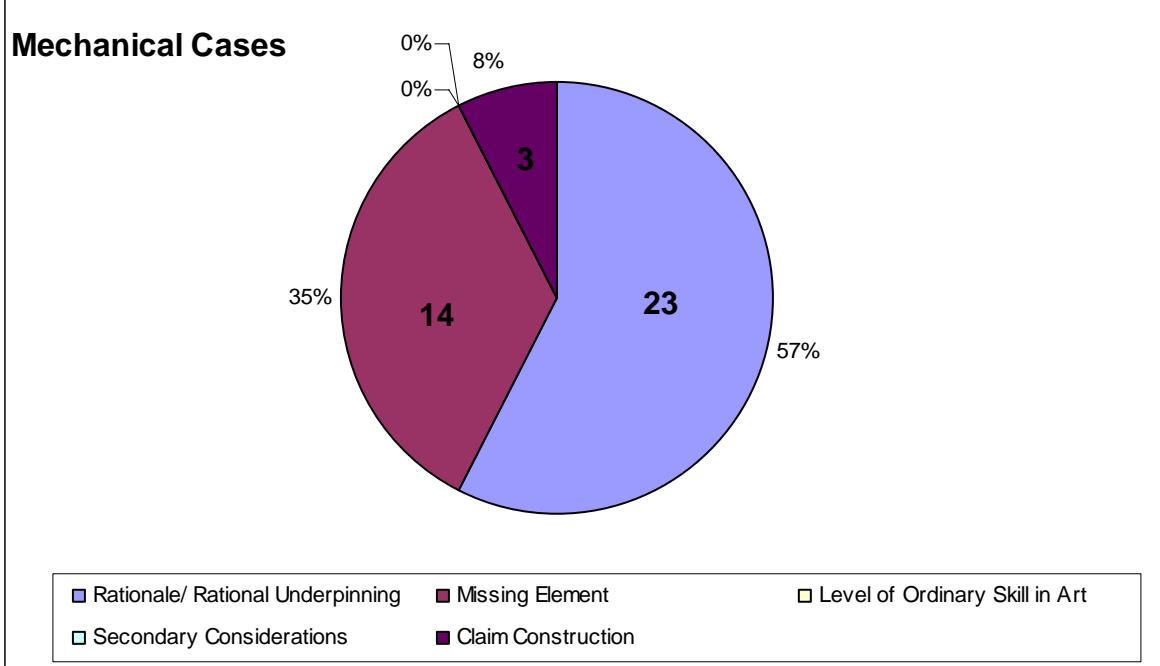


■ Rationale/ Rational Underpinning ■ Missing Element □ Level of Ordinary Skill in Art
□ Secondary Considerations ■ Claim Construction

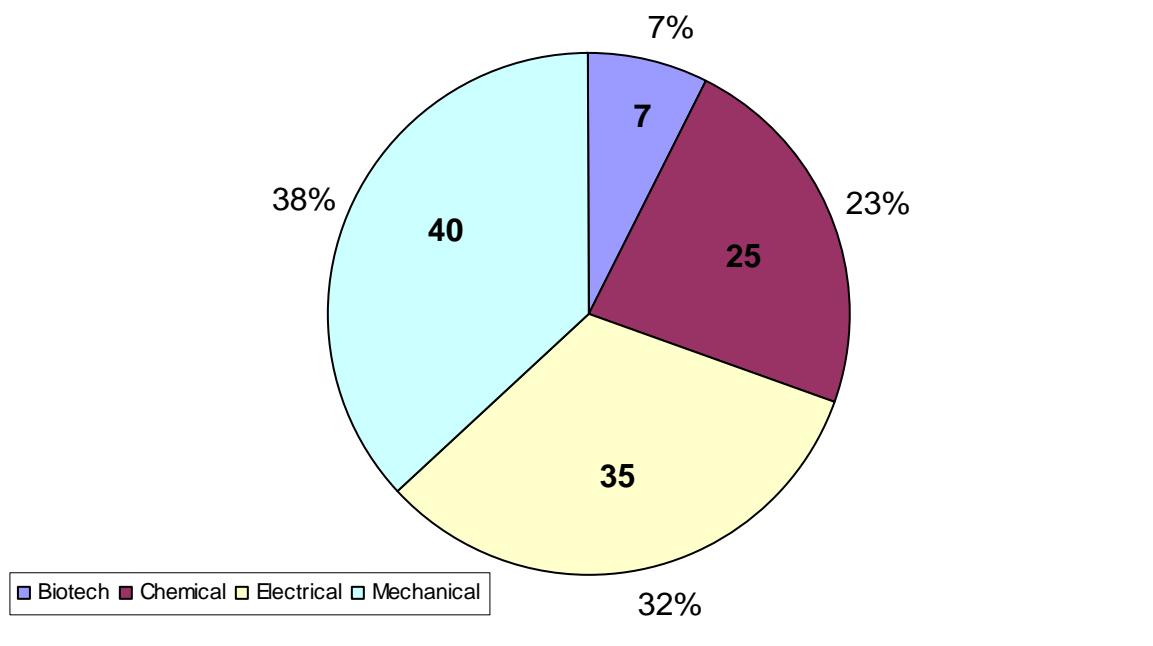
Electrical Cases



■ Rationale/ Rational Underpinning ■ Missing Element □ Level of Ordinary Skill in Art
□ Secondary Considerations ■ Claim Construction



Summary of Reasoning for BPAI's Reversal of Obviousness - By Group



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² The number of pending cases at BPAI was reported to be 14,059 as of Feb. 2010.
<http://www.uspto.gov/ip/boards/bpai/stats/process/fy2010febb.jsp>

³ *KSR Int'l v. Teleflex*, 550 U.S. 398 (2006); *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

⁴ In *KSR*, the Supreme Court recently reaffirmed its decision in *Graham v. John Deere* setting forth this three-step approach for evaluating obviousness.

⁵ Note lower threshold used for determining ambiguity at Board compared to courts set out in BPAI precedential decision, *Ex parte Miayazki*, 89 USPQ2d 1207 (BPAI 2008).

⁶ See *Ex parte Catlin*, 90 USPQ2d 1603 (BPAI 2009); *Ex parte Rodriguez*, 92 USPQ2d 1395 (BPAI 2009).

⁷ See, e.g., new ground of rejection for certain claims under 35 U.S.C. §§ 101 and 112(2) entered by BPAI on appeal in precedential BPAI decision, *Ex parte Gutta*, 93 USPQ2d 1025 (BPAI 2009).

⁸ See Michael V. Messinger, Jon M. Strang, and LuAnne M. DeSantis, *BPAI Reaches Beyond Bilski to Machines*, Intellectual Property Today, Feb. 3, 2009.

⁹ 37 C.F.R. § 1.132.

¹⁰ See *In re Peterson*, 315 F.3d 1325, 65 USPQ2d 1379 (Fed. Cir. 2003); Chisum on Patents § 5.04[1][f][iv].

¹¹ Chisum on Patents § 5.06[1][b][i].

¹² http://www.uspto.gov/ip/boards/bpai/procedures/guidance_noncompliant_briefs.jsp

¹³ See, e.g., *Ex parte Seyyedy*, No. 2009-1696 (BPAI 2009) (finding that Examiner failed to establish prima facie obviousness where cited references failed to disclose bit lines connecting a transistor, an interconnect, and memory bits as claimed).

¹⁴ See, e.g., *Ex parte Rambaud*, No. 2008-3267, slip op. at 7-10 (BPAI 2008) (finding that Examiner failed to establish prima facie obviousness where claims recited transmitting data during carrier frequency changes and one of Examiner's references expressly stated that communication during such frequency changes is not possible); *Ex parte Gutnik*, No. 2008-1983, slip op. at 8-12 (BPAI 2008) (finding that Examiner failed to establish prima facie obviousness where claims were based on differences between two resistances associated with an integrated circuit and Examiner's reference suggested just the opposite, two resistances of the same value); *Ex parte Simons*, No. 2009-0752, slip op. at 13-15 (BPAI 2009) (finding in favor of Appellant where no rational basis existed for combination of cited references and combination of references would actually teach away from their combination).

¹⁵ See, e.g., *Ex parte Esquivel*, No. 2009-1392 (BPAI 2009) (finding that Examiner failed to establish a prima facie case of obviousness where Examiner's combination of references to meet a claimed limitation would render one of the references unsatisfactory for its intended purpose); *Ex parte Seyyedy*, No. 2009-1696 (BPAI 2009) (finding that Examiner failed to establish obviousness where the cited references were based on disparate principles of operation).

¹⁶ For additional discussion regarding the mechanics and content needed in evidence to show non-obviousness at the USPTO, see Manual of Patent Examining Procedure §716, and Irah H. Donner, *Patent Prosecution: Law, Practice, and Procedure* 1303-1596 (5th ed. 2007).

¹⁷ Special thanks to Shannon Carroll and Patrick Hansen, associates at Sterne, Kessler, Goldstein and Fox, PLLC for their assistance with this research and analysis.

¹⁸ Note the total exceed 100 as some cases had more than one basis cited for reversal.