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Combating Hindsight Reconstruction in Patent Prosecution

Ashley Allman Bolt

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COMBATING HINDSIGHT RECONSTRUCTION IN PATENT PROSECUTION

ABSTRACT

The common saying “hindsight is 20–20” rings true in many different areas; in patent law specifically, hindsight bias has the potential to affect a patent examiner’s determination of whether an invention is “obvious” under 35 U.S.C. § 103. The examiner may permissibly rely upon a combination of prior art references to find that a claim would have been obvious to a person having ordinary skill in the art. However, the examiner may not use “that which only the inventor taught . . . against its teacher.” Structural flaws within the examination process place pressure upon examiners to reject claims upon first examination, regardless of the content of those claims. The Supreme Court’s decision in KSR International Co. v. Teleflex Inc. rejected the patent applicant’s primary guard against hindsight bias: the Federal Circuit’s teaching-suggestion-motivation test as the sole test for obviousness. This has left the patent applicant with little to combat obviousness rejections based on hindsight bias but the “secondary considerations” of Graham v. John Deere Co. of Kansas City, which are rarely available at the prosecution stage.

This Comment proposes a framework that focuses on the question of whether an examiner has impermissibly relied upon hindsight to combine references in determining obviousness. This framework provides an avenue for discussion between the patent examiner and the prosecuting attorney and provides substance to be considered by decisionmakers on appeal. The intent of the framework is to consider whether the examiner conducted the process of the examination in a fair and reasonable manner with full appreciation of what a person having ordinary skill in the art would have concluded when faced with the prior art. The proposed framework puts forward ten factors which should be considered in the totality of the circumstances, similar to the Wands factors for enablement or the DuPont factors for likelihood of confusion in Trademark Law.

These ten factors are not intended as an all-inclusive list but as examples of inquiries that may bear on the question of hindsight, of which there are likely many more. The adoption of this framework may increase the burden on examiners as well as their supervisors, but this Comment argues that the

benefit of adopting this framework, providing recourse to patent applicants who may be unfairly deprived of patent claims they deserve, outweighs the cost. The rejection of nonobvious patent applications thwarts one of the primary purposes of patent law: incentivizing innovation.

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INTRODUCTION

Empirical studies have shown that, once aware of an invention, jurors are much more likely to find that the invention would have been obvious.¹ This Comment explores the effect of that type of hindsight bias not on jurors during a trial but instead on obviousness determinations during patent examination. To obtain a patent, the rule has long been established that the claimed subject matter must be nonobvious. The 1952 Patent Act required that the patent examiner determine whether the invention in the patent application would have been obvious to a person having ordinary skill in the art (PHOSITA) at the time of invention.² If so, the invention did not meet the requirements for patentability.³ After the Leahy-Smith America Invents Act went into force in 2013, the timing has changed: the standard is now whether the invention would have been obvious to a PHOSITA at the time of filing.⁴ For the purposes of this Comment, though, the underlying theme is the same: according to the text of the statute, the examiner must view the claimed invention from a point in time prior to its examination when determining obviousness.

Viewing the claimed invention at the time of filing the patent application—or at the time of invention—is problematic since “[h]umans are cognitively incapable of ignoring what they have learned . . . as required for the proper ex ante analysis.”⁵ This phenomenon is commonly called the “hindsight bias.”⁶ In the context of patent prosecution, “[o]nce the [examiner] knows that the invention exists today, it can be difficult to prevent hindsight bias from affecting the [examiner’s] analysis” of the nonobviousness requirement.⁷ Reliance upon hindsight creates a bias against patentability because the

¹ See, e.g., Gregory N. Mandel, *Patently Non-Obvious: Empirical Demonstration that the Hindsight Bias Renders Patent Decisions Irrational*, 67 OHIO ST. L.J. 1391 (2006).

² Patent Act of 1952, ch. 950, § 103, 66 Stat. 792, 798 (“A patent may not be obtained . . . if 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.”).

³ See *id.*

⁴ Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 3(c), 125 Stat. 284, 287 (2011) (“A patent for a claimed invention may not be obtained . . . if 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 claimed invention pertains.”).

⁵ Mandel, *supra* note 1, at 1400.

⁶ *Id.* (internal quotation marks omitted).

⁷ Natalie A. Thomas, Note, *Secondary Considerations in Nonobviousness Analysis: The Use of Objective Indicia Following KSR v. Teleflex*, 86 N.Y.U. L. REV. 2070, 2076 n.29 (2011).

examiner views the invention as it exists and therefore merely as a trivial advance in the start of the art.

Courts and legal scholars have struggled to formulate a test for nonobviousness that compensates for the possibility that an examiner has impermissibly “take[n] into account the ex post fact that the invention was actually achieved”⁸ to reject patent claims as obvious. Current patent applicants who suspect the presence of hindsight bias in their rejections for obviousness have few avenues through which to address their concerns beyond arguing technical distinctions. For that reason, this Comment proposes a framework for determining whether an examiner has impermissibly relied upon hindsight in her rejection. The framework includes a number of factors that can weigh in favor of (or against) hindsight while considering whether the examination process was conducted in a fair and reasonable manner, with full appreciation of what a PHOSITA would have concluded when faced with the cited prior art.

This Comment proceeds in four parts. Part I explains the history of nonobviousness and the standards that courts have developed to combat reliance upon impermissible hindsight. Part II examines the process of patent examination and the difficulties encountered in patent prosecution after the Supreme Court’s decision in *KSR International Co. v. Teleflex Inc.* It also explains why objective indicia of nonobviousness are an impractical solution to the hindsight problem in the context of patent prosecution. Part III proposes the framework for determining whether an examiner has employed impermissible hindsight to reject claims as obvious under Section 103 by considering a number of factors, most of which are directed toward the process of examination. Finally, Part IV analyzes the potential impact on patent prosecution and appeals if the proposed test were adopted.

I. THE REQUIREMENT OF NONOBVIOUSNESS

Since 1793, the requirements for patentability of an invention have included novelty and utility.⁹ As the patent system developed, however, the judiciary began to acknowledge a need for an additional element.¹⁰ This judge-made element would further the goal of incentivizing innovation by

⁸ Mandel, *supra* note 1, at 1393.

⁹ See Act of Feb. 21, 1793, ch. 11, 1 Stat. 318.

¹⁰ See, e.g., *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248, 267 (1850) (“[T]he improvement is the work of the skillful mechanic, not that of the inventor.”).

protecting only substantial advances in the state of the art rather than natural technological evolution. In early cases such as *Hotchkiss v. Greenwood*, courts required “that degree of skill and ingenuity which constitute essential elements of every invention” for an advance to be patentable.¹¹ The standard of what constituted an “invention” was never clear,¹² which prompted lawmakers to take notice. Section A of this Part describes the passage as well as early interpretation of the Patent Act of 1952 in the seminal case of *Graham v. John Deere Co. of Kansas City* and its successor cases. Next, section B chronicles the Federal Circuit’s development of the teaching-suggestion-motivation (TSM) test for obviousness and describes the ways in which that test was a helpful guard against the hindsight bias. Finally, section C explains the Supreme Court’s rejection of the TSM test as the sole test for obviousness in *KSR* and its insistence on a more flexible standard.

A. *Passage and Initial Interpretation of the Patent Act of 1952*

Congress first codified the nonobviousness requirement for patentability in Section 103 of the Patent Act of 1952 (1952 Act). The drafters of the 1952 Act aimed to avoid the use of the word “invention” as a term of art indicating a separate requirement for patentability; instead, the statute requires that an invention be nonobvious.¹³ Today,¹⁴ Section 103 states as follows:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if 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

¹¹ *Id.*

¹² See *Atlas Scraper & Eng’g Co. v. Pursche*, 300 F.2d 467, 472 (9th Cir. 1961) (“It is a trite saying that invention defies definition. Yet, through long use, the word has acquired certain characteristics which at least give direction to its meaning. Invention is a concept; a thing evolved from the mind. It is not a revelation of something which exists and was unknown, but is the creation of something which did not exist before, possessing the elements of novelty and utility in kind and measure different from and greater than what the art might expect from its skilled workers.” (quoting *Pyrene Mfg. Co. v. Boyce*, 292 F. 480, 481 (3d Cir. 1923)) (internal quotation mark omitted)); Glynn S. Lunney, Jr. & Christian T. Johnson, *Not So Obvious After All: Patent Law’s Nonobviousness Requirement, KSR, and the Fear of Hindsight Bias*, 47 GA. L. REV. 41, 57 (2012) (“[T]he courts . . . struggled to define whether an advance was sufficient in any case to constitute an invention . . .”); Giles S. Rich, *The Vague Concept of “Invention” as Replaced by Sec. 103 of the 1952 Patent Act*, 46 J. PAT. OFF. SOC’Y 855, 860 (1964) (noting the “proliferation of views on what did and did not amount to invention went on for 100 years” (internal quotation marks omitted)).

¹³ See Rich, *supra* note 12, at 865.

¹⁴ As noted in the Introduction, the significant difference in the current statute and the Patent Act of 1952 is the point in time at which obviousness is considered. See *supra* notes 2–4 and accompanying text.

claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.¹⁵

In drafting Section 103, “Congress apparently intended to restate the basic *Hotchkiss* test with the emphasis on obviousness.”¹⁶ However, the term “obviousness” has proven as difficult to define as its predecessor “invention.” Congress attempted to define obviousness as that which would have been obvious to a PHOSITA but provided little guidance on how the standard should be applied.

The Supreme Court first explored the constitutional boundaries for determining patentability based on obviousness in the seminal case of *Graham v. John Deere Co. of Kansas City*.¹⁷ The Court began its analysis by noting that the starting point for federal patent power must be the Constitution,¹⁸ which authorizes Congress “[t]o promote the progress of . . . useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries.”¹⁹ Regardless of the congressional intent of the 1952 Act, Congress could not overstep the boundaries set by the Constitution.²⁰ Within those boundaries, though, Congress may “select[] the policy which in its judgment best effectuates the constitutional aim.”²¹ The 1952 Act did just that by adding for the first time an express requirement of nonobviousness for patentability.²² The Court concluded that the “general level of patentable invention” was not affected by Section 103 of the 1952 Act, which was intended to codify earlier judicial precedents.²³

The Court also articulated a four-factor test for determining nonobviousness in *Graham*. First, a factfinder must determine “the scope and content of the prior art.”²⁴ This step is necessary before advancing to the next step of ascertaining the “differences between the prior art and the claims at

¹⁵ 35 U.S.C. § 103 (2012).

¹⁶ Charles R. Haworth, Note, *Patentability—Section 103 of the Patent Act of 1952 Construed*, 44 TEX. L. REV. 1405, 1407 (1966); see *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 3–4 (1966). However, there is also evidence in the legislative history that Section 103 may have been a revision of the *Hotchkiss* standard. See, e.g., Rich, *supra* note 12.

¹⁷ 383 U.S. 1 (1966).

¹⁸ See *id.* at 5.

¹⁹ U.S. CONST. art. I, § 8, cl. 8.

²⁰ See *Graham*, 383 U.S. at 5–6.

²¹ *Id.* at 6.

²² See *id.* at 15.

²³ See *id.* at 16–17.

²⁴ *Id.* at 17.

issue.”²⁵ In other words, the decisionmaker must determine what the prior art is and whether it is different than the newly claimed invention. Third, the factfinder must determine “the level of ordinary skill in the pertinent art.”²⁶ This third consideration is important because the terms of the statute require that obviousness be judged from the point of view of a PHOSITA.²⁷ Finally, the factfinder may utilize “secondary considerations . . . to give light to the circumstances surrounding the origin of the subject matter.”²⁸ These secondary considerations might include “commercial success, long felt but unsolved needs, [or] failure of others.”²⁹ Secondary considerations may also be called “indicia of obviousness or nonobviousness.”³⁰

Secondary considerations can simplify the complex technical material often present in patent cases.³¹ They also attempt to guard against courts impermissibly relying on hindsight bias.³² The Court noted that the test for nonobviousness would still be difficult to apply, even under this framework, since opinions as to obviousness will surely differ in any factual scenario.³³ But because the judiciary routinely faces complicated inquiries in other fields of law, it should be able to apply the same skills in the context of nonobviousness.³⁴

The Supreme Court soon revisited the nonobviousness requirement to clarify that simply combining elements previously known in the art does not make an invention nonobvious.³⁵ In *Anderson’s-Black Rock, Inc. v. Pavement Salvage Co.*, the patent at issue was a new combination of known elements for laying asphalt: a radiant heat burner, a spreading mechanism, and a shaping device.³⁶ The Court concluded that all elements were previously known in the

²⁵ *Id.* Prior art is defined as “[k]nowledge that is publicly known, used by others, or available on the date of invention to a person of ordinary skill in an art.” BLACK’S LAW DICTIONARY 133 (10th ed. 2014).

²⁶ *Graham*, 383 U.S. at 17.

²⁷ *See* 35 U.S.C. § 103 (2012).

²⁸ *Graham*, 383 U.S. at 17–18.

²⁹ *Id.* at 17. This list of secondary considerations is not exhaustive; courts have identified additional factors as well. *See* KIMBERLY A. MOORE, TIMOTHY R. HOLBROOK & JOHN F. MURPHY, PATENT LITIGATION AND STRATEGY 717 (4th ed. 2013).

³⁰ *Graham*, 383 U.S. at 18.

³¹ *See* Emer Simic, *The TSM Test Is Dead! Long Live the TSM Test! The Aftermath of KSR, What Was All the Fuss About?*, 37 AIPLA Q.J. 227, 231 (2009).

³² *See id.*

³³ *See Graham*, 383 U.S. at 18.

³⁴ *See id.* (using negligence and scienter as examples).

³⁵ *See Anderson’s-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57 (1969); *see also* Sakraida v. Ag Pro, Inc., 425 U.S. 273, 282 (1976).

³⁶ *See Anderson’s-Black Rock*, 396 U.S. at 58.

art and that to combine them would have been obvious to a PHOSITA.³⁷ This was especially true given that the combination did not produce a new or unexpected result.³⁸ Perhaps most importantly, the presence of secondary factors like commercial success and fulfillment of a long felt but unsolved need were, “without invention,” not enough to satisfy the patentability standards.³⁹ Similarly, the Court held in *Sakraida v. Ag Pro, Inc.* that the “patent simply arrange[d] old elements with each performing the same function it had been known to perform, although perhaps producing a more striking result than in previous combinations.”⁴⁰ The combination did not satisfy the nonobviousness requirement of patentability because the function of each element remained the same.⁴¹

B. The Development of the TSM Test as a Guard Against Hindsight Bias

The three cases described in section A, above, seemed to set a relatively high standard for patentability, but it was just that—a standard—which the Federal Circuit came to view as an inadequate guard against the danger of hindsight bias in nonobviousness determinations. When the Federal Circuit was established in 1982 and given national jurisdiction over nearly all patent matters,⁴² it quickly became clear that this court preferred well-defined rules to nebulous standards. During patent examination, explained in Part II,⁴³ patent examiners view the claims of the application, gather a pool of references, and utilize those references as prior art to reject the claims in the application. The Manual of Patent Examining Procedure permits the examiner to combine prior art references to find each limitation of the claim when determining obviousness.⁴⁴ The Federal Circuit feared the possibility of hindsight bias affecting such combinations⁴⁵ and as a result began to develop the teaching-suggestion-motivation test for finding a patent obvious.⁴⁶ The TSM

³⁷ See *id.* at 60–61.

³⁸ See *id.*

³⁹ *Id.* at 61 (quoting *Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 153 (1950)) (internal quotation mark omitted).

⁴⁰ *Sakraida*, 425 U.S. at 282.

⁴¹ See *id.*

⁴² See *Court Jurisdiction*, U.S. CT. APPEALS FOR FED. CIRCUIT, <http://www.cafc.uscourts.gov/the-court/court-jurisdiction.html> (last visited Mar. 4, 2015).

⁴³ See *infra* Part II.

⁴⁴ See MPEP § 2143 (9th ed., Mar. 2014).

⁴⁵ See Thomas, *supra* note 7, at 2076 n.29.

⁴⁶ See, e.g., *Abbott Labs. v. Andrx Pharm., Inc.*, 452 F.3d 1331, 1336 (Fed. Cir. 2006); *In re Kahn*, 441 F.3d 977, 986 (Fed. Cir. 2006); *In re Huston*, 308 F.3d 1267, 1280 (Fed. Cir. 2002); *In re Dembiczak*, 175

test required an examiner to show that, at the time of invention, there existed some teaching, suggestion, or motivation that would prompt the PHOSITA to combine the elements of the prior art to yield the claimed invention.⁴⁷ The teaching, suggestion, or motivation could come from the prior art, the PHOSITA's knowledge, or the nature of the problem.⁴⁸ The Federal Circuit maintained that "the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application" of the TSM test.⁴⁹

In 1992, the Federal Circuit expressed an early formulation of the TSM test in *In re Oetiker*.⁵⁰ In this case, the inventor claimed a metal hose clamp that featured a "preassembly hook."⁵¹ The examiner rejected the inventor's claims as obvious in view of earlier metal hose clamps combined with art from the garment industry that utilized hook-and-eye fasteners.⁵² The court concluded that the invention was not obvious because a PHOSITA in metal hose clamps would not "reasonably be expected or motivated" to consult the teachings of the garment industry.⁵³ The court also noted that "it is necessary to consider . . . common sense [when] deciding in which fields a [PHOSITA] would reasonably be expected to look for a solution to the problem facing the inventor."⁵⁴ The court went on to express one of the earlier formulations of the TSM test by requiring "some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination."⁵⁵

The Federal Circuit revisited the issue in *In re Kemps*, a case about "a method of removing old asphalt concrete containing a stone fraction."⁵⁶ The examiner rejected the claimed invention as obvious in view of two United States patents that each disclosed one or more elements of the claim at issue.⁵⁷

F.3d 994, 998–99 (Fed. Cir. 1999); *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1351–52 (Fed. Cir. 1998); *In re Oetiker*, 977 F.2d 1443, 1447 (Fed. Cir. 1992).

⁴⁷ See *In re Kahn*, 441 F.3d at 987–88.

⁴⁸ See *id.*; Simic, *supra* note 31, at 231–32.

⁴⁹ *In re Dembiczak*, 175 F.3d at 999.

⁵⁰ 977 F.2d 1443.

⁵¹ *Id.* at 1446 (internal quotation marks omitted).

⁵² See *id.*

⁵³ *Id.* at 1447.

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ 97 F.3d 1427, 1428 (Fed. Cir. 1996).

⁵⁷ See *id.* at 1429 (citing U.S. Patent No. 4,226,552 (filed May 17, 1978) and U.S. Patent No. 4,793,730 (filed Aug. 13, 1984)).

The motivation to combine prior art references in this case could be found in the prior art itself. One patent taught the “heating of asphalt concrete with a hood heated by gas burners, the breaking up of the heated asphalt with a scarifying element, and the scraping away of the heated asphalt with a blade.”⁵⁸ A second patent taught “a similar process in which steam [was] used to heat the asphalt surface.”⁵⁹ The second patent specifically noted the disadvantages associated with the gas burning process and taught the use of steam to overcome those complications.⁶⁰ Therefore, the U.S. Patent and Trademark Office (PTO) properly rejected the new application as obvious under 35 U.S.C. § 103.⁶¹

The Federal Circuit applied the TSM test even more strictly in *In re Dembiczak*.⁶² The inventors had designed a large trash bag made from orange plastic and printed with a design that made it resemble a jack-o’-lantern when full.⁶³ The court focused its decision in this case on hindsight, emphasizing that determining whether an invention is obvious “requires the oft-difficult but critical step of casting the mind back to the time of invention, to consider the thinking of [a PHOSITA], guided only by the prior art references and the then-accepted wisdom in the field.”⁶⁴ In cases such as this, where the invention was less complex and was developed with relative ease, examiners and courts must be even more careful not to “fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.”⁶⁵ Though the suggestion, teaching, or motivation to combine usually comes from the prior art references, it may also come from the knowledge of the PHOSITA or the type of problem being solved.⁶⁶ Wherever the evidence originates, though, it must clearly and particularly show the teaching, suggestion, or motivation.⁶⁷ In other words, “[b]road conclusory statements regarding the teaching of multiple references” are not enough to

⁵⁸ *Id.*; see ’552 Patent.

⁵⁹ *In re Kemps*, 97 F.3d at 1429; see ’730 Patent.

⁶⁰ See *In re Kemps*, 97 F.3d at 1429–30.

⁶¹ See *id.* For another example in which the Federal Circuit found explicit TSM to combine references, see *In re Huston*, 308 F.3d 1267, 1282 (Fed. Cir. 2002).

⁶² 175 F.3d 994 (Fed. Cir. 1999).

⁶³ See *id.* at 996.

⁶⁴ *Id.* at 999.

⁶⁵ *Id.* (quoting *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983)) (internal quotation marks omitted).

⁶⁶ See *id.*

⁶⁷ See *id.*

prove obviousness.⁶⁸ In this case, the Board of Patent Appeals and Interferences (Board) combined children's art references with conventional trash bag references but did not specifically identify any TSM to combine those references.⁶⁹ The Board instead limited its discussion to ways that the prior art could be combined to read on each and every limitation of the claimed invention,⁷⁰ which was not enough to sustain its conclusion of obviousness.⁷¹ The Federal Circuit required the Board to explicitly state a finding of TSM, which the Board failed to do.⁷²

Throughout this line of cases, the Federal Circuit arguably “lowered the bar for nonobviousness, resulting in the issuance of many patents that should [have been] invalid.”⁷³ By moving toward requiring an express statement of a teaching, suggestion, or motivation to combine in the prior art itself, the court lowered the standard for nonobviousness: if a combination were obvious, the prior art probably would not feel the need to expressly articulate the suggestion.⁷⁴ For twenty-five years, the Supreme Court “refused all invitations to reexamine the Federal Circuit’s doctrinal developments” concerning the nonobviousness requirement, so the TSM test persisted.⁷⁵ During that time, though, the TSM test and patentability standards in general were not without their critics. Newspapers, scientific journals, and legal scholars took notice of the patents being upheld for trivial inventions.⁷⁶

⁶⁸ *Id.*

⁶⁹ *See id.* at 1000.

⁷⁰ If the prior art “reads on” every limitation of the claimed invention, then every element of the claimed invention is present in the prior art; here, the court found every element of the claimed invention somewhere in the prior art, though not all in a single reference. BLACK’S LAW DICTIONARY, *supra* note 25, at 1454 (defining “read on” as “to contain all the same features of (a prior-art reference)”).

⁷¹ *See In re Dembiczak*, 175 F.3d at 1000.

⁷² *See id.*

⁷³ Timothy R. Holbrook, *Obviousness in Patent Law and the Motivation to Combine: A Presumption-Based Approach*, WASH. U. L. REV., Slip Opinions, Mar. 21, 2007, at 4 & n.11 available at <http://ssrn.com/abstract=976695> (citing questionable patents for a crustless peanut butter and jelly sandwich, U.S. Patent No. 6,004,596 (filed Dec. 8, 1997), and a method of swinging on a swing, U.S. Patent No. 6,368,227 (filed Nov. 17, 2000)).

⁷⁴ *See id.*

⁷⁵ Lunney & Johnson, *supra* note 12, at 65.

⁷⁶ *See* Lori Andrews et al., *When Patents Threaten Science*, 314 SCIENCE 1395, 1395–96 (2006) (citing Lori Andrews, *The Patent Office as Thought Police*, CHRON. HIGHER EDUC., Feb. 17, 2006, at B20; Editorial, *Patently Absurd*, WALL ST. J., Mar. 1, 2006, at A14, available at <http://www.wsj.com/articles/SB114117826666886050>; Editorial, *Patently Ridiculous*, N.Y. TIMES, Mar. 22, 2006, at A24, available at <http://www.nytimes.com/2006/03/22/opinion/22wed1.html>; Rebecca S. Eisenberg, *Biotech Patents: Looking Backward While Moving Forward*, 24 NATURE BIOTECH. 317 (2006)).

C. *The Supreme Court Intervenes with KSR*

This evolution ultimately culminated in the Federal Circuit applying a particularly stringent version of the TSM test in *Teleflex, Inc. v. KSR International Co.*, in which the court required some TSM “that would have led a [PHOSITA] to combine the relevant prior art teachings *in the manner claimed*.”⁷⁷ Teleflex brought suit against KSR alleging infringement of its patent covering a vehicle pedal that could be adjusted via an electronic control. KSR countered by asserting that the patent was invalid because its claims were obvious.⁷⁸ In granting summary judgment in favor of KSR, the district court determined that, because the limitations of the claim at issue could be found in a combination of prior art references, the claim was obvious.⁷⁹ On appeal, the Federal Circuit issued a non-precedential opinion that stated the established standards for obviousness with particular reference to Section 103, *Graham v. John Deere*, and *In re Dembiczak*.⁸⁰ The court reiterated that the legal question of obviousness is grounded in 35 U.S.C. § 103 and should be analyzed based on the underlying factual inquiries addressed by the *Graham* factors.⁸¹ After articulating the version of the TSM test noted above, the Federal Circuit conceded that evidence of obviousness may be rebutted by the fourth *Graham* factor of secondary considerations.⁸²

The Federal Circuit’s opinion made clear its skepticism when examiners or accused infringers combine references to reject or invalidate a patent claim as obvious: the court feared that the hindsight bias would affect the decisions of those viewing the patent at a later time.⁸³ The Federal Circuit criticized the district court’s application of the TSM test as incomplete because it did not “make specific findings as to a suggestion or motivation to attach an electronic control to the support bracket of the [prior art pedal] assembly.”⁸⁴ This type of specific finding would counteract the possibility of hindsight weighing too heavily in the court’s decision.⁸⁵ The court found that the award of summary

⁷⁷ 119 F. App’x 282, 285 (Fed. Cir. 2005) (emphasis added).

⁷⁸ See Thomas C. Goldstein, *The KSR Backstory*, LANDSLIDE, Sept.–Oct. 2008, at 23, 23.

⁷⁹ *Teleflex*, 119 F. App’x at 284.

⁸⁰ *Id.* at 285 (citing 35 U.S.C. § 103 (2000)); see also *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 14 (1966); *In re Dembiczak*, 175 F.3d 994, 998 (Fed. Cir. 1999)); Goldstein, *supra* note 78, at 23.

⁸¹ *Teleflex*, 119 F. App’x at 285.

⁸² *Id.*; see *Graham*, 383 U.S. at 17–18.

⁸³ See *Teleflex*, 119 F. App’x at 285–86 (citing Federal Circuit case law in favor of the TSM test and asserting that there must be TSM to “combine the prior art teachings in the particular manner claimed” in order to guard against the hindsight bias).

⁸⁴ *Id.* at 288.

⁸⁵ See *id.*

judgment by the trial court was inappropriate because there were genuine issues of material fact regarding obviousness; therefore, the Federal Circuit vacated the decision of the district court and remanded the case for further proceedings.⁸⁶

After the Federal Circuit's decision, KSR petitioned for a writ of certiorari. The petition struck a chord with the Supreme Court, arguably because it advanced the position that, because the Federal Circuit was "too pro-patent," it was flouting one of the primary objectives of patent law: advancing innovation.⁸⁷ By arguing that the Federal Circuit had "boldly repudiated" Supreme Court jurisprudence, KSR persuaded the Court to take the case.⁸⁸

In its opinion, the Supreme Court dismissed the Federal Circuit's application of the TSM test as too strict and instead relied upon its own earlier jurisprudence to hold that a more flexible approach was required.⁸⁹ To some extent, the Court shared the Federal Circuit's hesitancy to grant patents for combinations of prior art, but the Court held that the framework established by its precedent and 35 U.S.C. § 103 were sufficient to guard against the issuance of patents on combinations of existing technology when those combinations "yield predictable results."⁹⁰ The Court noted that it will often be necessary for a court to consider the teachings of multiple patents; in such cases, "[t]o facilitate review, the analysis should be made explicit."⁹¹ The Court conceded that the TSM test could be a helpful insight into whether a PHOSITA would have had a reason to combine the elements of the prior art in the same way as the claimed invention, but as a "rigid and mandatory formula," it did not comport with Supreme Court precedent.⁹²

⁸⁶ *Id.* at 290.

⁸⁷ *See* Goldstein, *supra* note 78, at 24 ("[KSR's counsel] fundamentally redefined the issue in the case, and did so in a way that tapped into a much broader and deeper vein of criticism of patent jurisprudence: that the Federal Circuit is too pro-patent and is, as a consequence, stifling innovation.").

⁸⁸ *Id.* (quoting Petition for a Writ of Certiorari at 16, *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007) (No. 04-1350), 2005 WL 835463). KSR had others on its side: amici curiae including technology companies, the Progress & Freedom Foundation, and academics; and the solicitor general, who requested the views of the PTO. *See id.*

⁸⁹ *KSR*, 550 U.S. at 415.

⁹⁰ *See id.* at 415–17.

⁹¹ *Id.* at 418 (discussing the proposition that "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (alterations and internal quotation marks omitted)).

⁹² *Id.* at 418–19.

The primary flaw that the Supreme Court found with the TSM test was the Federal Circuit's "narrow conception of the obviousness inquiry reflected in its application of the . . . test."⁹³ The Court found error with the Federal Circuit's degree of concern with hindsight bias.⁹⁴ The opinion introduced "common sense" as a path to proving obviousness since "[c]ommon sense teaches . . . that familiar items may have obvious uses beyond their primary purposes" and a PHOSITA may "be able to fit the teachings of multiple patents together like pieces of a puzzle."⁹⁵ Further, the Court emphasized that a PHOSITA might reasonably consider prior art originally designed to solve problems other than his or her own since the PHOSITA is "a person of ordinary creativity, not an automaton."⁹⁶ The PHOSITA would also recognize that a technique used to improve one device could be used to improve other similar devices, so the use of that technique may be considered obvious.⁹⁷

The Court also disagreed with the Federal Circuit's rejection of the "obvious to try" standard and held that "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions" then "the fact that the combination was obvious to try might show that it was obvious under § 103."⁹⁸ The Court further noted that "simple substitution of one known element for another" is obvious, but activities beyond simple substitution may require a more in-depth analysis to determine obviousness.⁹⁹ When all of these principles were applied to the facts at issue, the Supreme Court held that the claim was obvious.¹⁰⁰

II. PROSECUTION DIFFICULTIES FOLLOWING *KSR*

This Part explains how obviousness determinations are made at the PTO and the changes that occurred in the MPEP following the Supreme Court's decision in *KSR*. It then examines one of the currently available methods for combating obviousness rejections: the secondary considerations of *Graham*. Finally, this Part concludes by suggesting that the secondary considerations of

⁹³ *Id.* at 419.

⁹⁴ *See id.* at 420–21.

⁹⁵ *Id.* at 420.

⁹⁶ *Id.* at 421.

⁹⁷ *See id.* at 417.

⁹⁸ *Id.* at 421 (citation omitted).

⁹⁹ *Id.* at 417.

¹⁰⁰ *Id.* at 422.

Graham are an inadequate guard against hindsight bias, specifically in the context of patent prosecution.

A. Patent Examination Process

Before delving into the problems experienced in patent prosecution following *KSR*, it is important to understand a patent examiner's qualifications and the process by which she examines patent applications. Examiners are not required to have legal training, but they must have obtained at least a bachelor's degree in their respective field.¹⁰¹ When an application for patent is received at the PTO, it is assigned to a single patent examiner who will read the claims included in the application.¹⁰² Due to time constraints and examination quotas, the examiner may not thoroughly read the specification included in the application,¹⁰³ especially if she believes she has grasped the technology by reading only the claims.

At this point, the examiner will gather a primary group of references that she deems relevant to the technology at hand.¹⁰⁴ Key word searching may bring in references that use similar or the same wording that appears in the claims but may be directed to a different subject matter. Pressure to reject claims upon first examination is high, especially for new examiners whose supervisors are weary of the suggestion that as-filed claims are allowable.¹⁰⁵ In this context, even if the prior art appears to lack the disclosure of certain features of the claims, the examiner may be relegated to reading the claims broadly enough so that that the primary group of references reads on the claims. Assuming she does not find an anticipatory reference,¹⁰⁶ the examiner

¹⁰¹ See *Patent Examiner Positions*, U.S. PAT. & TRADEMARK OFF., <http://www.uspto.gov/web/offices/pac/exam.htm> (last visited Mar. 4, 2015); *Patent Examiner (Computer Engineering)*, USAJOBS.GOV, <https://www.usajobs.gov/GetJob/ViewDetails/355133000> (last visited Mar. 4, 2015).

¹⁰² The "patent claim" defines the scope of the patent's protection. The claims are typically found at the end of the patent document in a numbered list that describes the "novel features of [the] invention." BLACK'S LAW DICTIONARY, *supra* note 25, at 1303–04.

¹⁰³ The patent "specification" (or patent application) is a considerably longer part of the patent document that describes "how [the] invention is made and used." BLACK'S LAW DICTIONARY, *supra* note 25, at 1616. The specification technically includes the inventor's claims, *see id.*, but this Comment adopts the convention within the practice of patent law by referring to the claims and the specification separately.

¹⁰⁴ See MPEP, *supra* note 44, § 700.

¹⁰⁵ It is a common thought among patent attorneys that any claim not initially rejected was probably drafted too narrowly. It is not uncommon for over 75% of applications that eventually issue as patents to be initially rejected. See Dennis Crouch, *Percentage of Patents that were Initially Rejected*, PATENTLYO (Apr. 3, 2009), <http://www.patentlyo.com/patent/2009/04/percentage-of-patents-that-were-initially-rejected.html>.

¹⁰⁶ An anticipatory reference would include every element of the claim at hand, so the claim would no longer meet the novelty requirement of 35 U.S.C. § 102.

will be required to undertake the secondary exercise of finding ways that the pool of primary references could be combined to teach every element of the claims. The examiner *should* pause at this point in the process to consider whether her chosen references make sense when put together; she should also consider whether combining those references is something a PHOSITA would have reasonably considered. In the rejection she issues, the examiner should explain her reasoning as to why the particular references combine to read on the applicant's claims, as required by *KSR*.¹⁰⁷

Often, though, this process does not happen as it should. Examiners may be faced with supervisory pressure, time constraints, or inadequate appreciation of the legal issues at hand, and may make these combinations without giving due consideration to whether the reasoning for the combination is sound. Misguided rejections have become more common since the Supreme Court's decision in *KSR* opened the door to impermissible hindsight by removing the pause required by the TSM test during examination.

B. Changes in the MPEP Post-KSR

In rejecting the Federal Circuit's requirement of TSM to combine references, the *KSR* decision highlighted various rationales for obviousness rejections to patent examiners. Following *KSR*, some scholars and practitioners have expressed concern that nonobvious patents are being summarily rejected on the basis of the highlighted rationales: providing "predictable result[s]," being "obvious to try," and being "common sense," among others.¹⁰⁸ When the PTO revised the Manual of Patent Examining Procedure (MPEP) in view of the *KSR* decision, it added a number of "[e]xemplary rationales that may support a conclusion of obviousness" based on the Court's opinion.¹⁰⁹ The MPEP currently states:

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

¹⁰⁷ See *KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

¹⁰⁸ See Jeffrey K. Mills, Jason A. Fitzsimmons & Kevin Rodkey, *Protecting Nanotechnology Inventions: Prosecuting in an Unpredictable World*, 7 NANOTECH. L. & BUS. 223, 226 (2010); Marian Underweiser, *Presumed Obvious: How KSR Redefines the Obviousness Inquiry to Help Improve the Public Record of a Patent*, 50 IDEA 247, 268–70 (2010) (citing *KSR*, 550 U.S. at 415–16, 420–21). *But cf.* Tom Brody, *Obviousness in Patents Following the U.S. Supreme Court's Decision*, *KSR International Co. v. Teleflex, Inc.*, 92 J. PAT. & TRADEMARK OFF. SOC'Y 26, 29–30 (2010) (arguing that the *KSR* decision has not necessarily resulted in an increase in obvious rejections).

¹⁰⁹ Compare MPEP, § 2143 (8th ed. Rev. 5, Aug. 2006) (lacking examples), with MPEP, § 2143 (8th ed. Rev. 6, Sept. 2007) (providing examples).

- (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;
- (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.¹¹⁰

Examiners can use these rationales to combine references under *KSR*. In short, “*KSR* increased the range of arguments available for asserting the obviousness of an invention,”¹¹¹ thus making patent applications easier to reject without a thoughtful, well-reasoned explanation as to why the claimed invention is obvious.¹¹²

Prior to *KSR*, though the Federal Circuit suggested it was permissible to rely upon an *implicit* teaching, suggestion, or motivation, most of its cases seemed to apply a rigid rule that required an *explicit* teaching, suggestion, or motivation within the references themselves.¹¹³ This supplied patent applicants with a standby strategy to combat obviousness rejections: if applicable, assert a lack of explicit TSM to combine in the cited references themselves. But in light of the new exemplary rationales to support obviousness rejections, and without the requirement for TSM to combine, patent applicants after *KSR* have been left with little to combat potential hindsight bias implicated in obviousness rejections other than the *KSR* requirement for explicit analysis in the rejection¹¹⁴ and the secondary considerations of *Graham*.¹¹⁵

¹¹⁰ See MPEP, *supra* note 44, § 2143.

¹¹¹ Mills, *supra* note 108, at 228 (citing *KSR*, 550 U.S. at 413–419).

¹¹² See *id.*

¹¹³ *In re Kahn*, 441 F.3d 977, 987–88 (Fed. Cir. 2006).

¹¹⁴ See *KSR*, 550 U.S. at 418.

¹¹⁵ See *Post-KSR Patent Prosecution “Survival Guide,”* CROWELL MORING (May 16, 2007), <http://www.crowell.com/NewsEvents/AlertsNewsletters/IP-Insights/Post-KSR-Patent-Prosecution-Survival-Guide/pdf> (citing *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1 (1966)).

C. *Development of the Secondary Considerations of Graham*

Legal scholars have proposed, and courts have adopted, various secondary considerations to consider in the fourth *Graham* factor. These so-called “objective indicia of obviousness or nonobviousness” are usually “non-technical [factors] . . . which focus the [S]ection 103 inquiry on economic and motivational issues surrounding the development of the claimed invention.”¹¹⁶ The *Graham* decision itself contemplated “commercial success, [fulfillment of] long felt but unsolved needs, [or] failure of others” as potential secondary considerations.¹¹⁷ Other examples include “unexpected results,”¹¹⁸ “licensing to potential competitors, copying by an infringer, progress of the patent application through the [PTO], near-simultaneous invention by another researcher in the field, and professional approval by experts in the field.”¹¹⁹

In the context of litigation, secondary considerations can work well as one factor in the *Graham* test for obviousness because they “substantially simplif[y] the obviousness inquiry” by their “non-technical” nature.¹²⁰ Because they “[gave] insight into the circumstances surrounding the development of the claimed invention,” these considerations also “reduce[] the danger that the obviousness evaluation would be based on hindsight, or that the inventor’s discovery would inadvertently be read into the prior art.”¹²¹ Since any litigation necessarily takes place after the patent has issued, there is a greater likelihood that the patented technology has the potential to have been commercially exploited, and therefore many of the secondary considerations can be proven if they exist.¹²²

¹¹⁶ Dorothy Whelan, Note, *A Critique of the Use of Secondary Considerations in Applying the Section 103 Nonobviousness Test for Patentability*, 28 B.C. L. REV. 357, 365 (1987) (citing *Graham*, 383 U.S. at 36 and Richard L. Robbins, Note, *Subtests of “Nonobviousness”: A Nontechnical Approach to Patent Validity*, 112 U. PA. L. REV. 1169, 1171–72 (1964)).

¹¹⁷ *Graham*, 383 U.S. at 17.

¹¹⁸ Andrew Blair-Stanek, *Increased Market Power as a New Secondary Consideration in Patent Law*, 58 AM. U. L. REV. 707, 712–13 (2009) (listing nine secondary considerations developed by courts).

¹¹⁹ Whelan, *supra* note 116, at 366.

¹²⁰ *Id.* (citing *Graham*, 383 U.S. at 36 and Robbins, *supra* note 116).

¹²¹ *Id.* at 367.

¹²² *See generally* *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340, 1349 (Fed. Cir. 2012) (finding secondary considerations sufficient to rebut a prima facie case of obviousness).

D. Inadequacy or Impracticality of Secondary Considerations in Patent Prosecution

Although secondary considerations may be an adequate guard against hindsight in litigation, they are often less helpful in the context of patent prosecution for several reasons. First, objective indicia of nonobviousness such as commercial success or commercial acquiescence via licensing may not be available at the prosecution stage since applicants may wait until the patent is granted to commercialize or seek licensees. Second, evidence of copying by competitors is not applicable in prosecution, particularly if the application has not yet published; presumably, competitors have nothing to copy since the technology may have been kept secret prior to patenting. Third, progress of the patent application through the PTO cannot be considered during the application process. The other secondary considerations, though perhaps more applicable than their counterparts at the prosecution stage, still may not be available without the benefit of an adversary and the opportunity for discovery. Fourth, the MPEP requires a nexus between the evidence of secondary considerations provided and the claimed invention.¹²³ For example, the applicant must be able to prove that the reason for commercial success is the claimed invention itself and not a clever marketing campaign.¹²⁴ Though the nexus requirement is admittedly necessary, it may be exceedingly difficult to prove to the examiner.¹²⁵ Finally, some attorneys report that arguing secondary considerations in a response before the PTO “typically falls on deaf ears” since examiners often view evidence of secondary considerations as something to be weighed only when the obviousness inquiry is a “close call.”¹²⁶

Prosecuting attorneys are often left to argue technical distinctions between the claims and the prior art to combat rejections for obviousness. Due to the unavailability or impracticality in prosecution of secondary considerations for guarding against hindsight bias, a vacuum remains that invites a new test to fairly and adequately assess whether an examiner has used impermissible hindsight to combine references in a rejection based upon obviousness.

¹²³ See MPEP, *supra* note 44, § 716.01(b).

¹²⁴ See *id.*

¹²⁵ See *id.*

¹²⁶ *Secondary Considerations*, FISH IP LAW, <http://www.fishiplaw.com/~fishipla/chapter11a.html> (last visited Mar. 4, 2015).

III. FRAMEWORK FOR DETERMINING USE OF IMPERMISSIBLE HINDSIGHT

This Part proposes a framework for determining whether an obviousness rejection is based on an impermissible level of hindsight bias. It proposes considering ten factors in the totality of the circumstances to gauge whether the degree of hindsight employed by the examiner to reject claims as obvious under Section 103 was permissible.¹²⁷ The factors are principally inspired by indicia that courts have historically considered relevant when determining obviousness. The provided framework is intended as a check on the patent examination process described in Part II.¹²⁸ The examiner may generate a rejection based on one of the exemplary rationales set forth in the MPEP, but this framework gives a legal basis for argument to applicants who believe the rejection is impermissibly based upon hindsight. A proper obviousness rejection is based on a “fact-intensive comparison of the claimed process with the prior art rather than the mechanical application of one or another *per se* rule.”¹²⁹ This Comment recognizes that every patent examination is necessarily subject to some degree of hindsight,¹³⁰ but the goal of this framework is to determine whether an examiner has crossed the line between permissible unavoidable hindsight and the bias of impermissible hindsight. The intent of the proposed framework is to focus on whether the examiner was fair in the process of considering the obviousness of the application at hand.

Each of the sections below proposes considering a factor that may indicate whether an examiner has relied on impermissible hindsight. The factors listed here are not an all-inclusive list, as there are likely many others that could reasonably bear on the question of hindsight. The factors have their basis in existing case law, and many have been considered important to the overall question of obviousness. This Part proceeds in ten sections, which will address each of this Comment’s proposed factors in turn: (1) the degree to which the combined references show or suggest all elements of the claim being examined; (2) the degree to which the rejection is based on a clearly articulated, reasonable rationale to combine references; (3) the degree to which the results are predictable; (4) the degree to which the combined references are compatible; (5) the degree to which the examiner has analyzed each of the

¹²⁷ See 35 U.S.C. § 103 (2012).

¹²⁸ See *supra* Part II.A.

¹²⁹ Austen Zuege & Carolyn Beck, *No Short-Cuts: Weighing the Facts Under §103*, 91 J. PAT. & TRADEMARK OFF. SOC’Y 398, 402 (2009) (quoting *In re Ochiai*, 71 F.3d 1565, 1571 (Fed. Cir. 1995) (internal quotation marks omitted)).

¹³⁰ See *In re McLaughlin*, 443 F.2d 1392, 1395 (C.C.P.A. 1971).

references as a whole rather than picking and choosing key phrases; (6) the degree to which combining the references would change the principle of operation of the primary reference; (7) the degree to which one or more of the references teach away from the combination made by the applicant; (8) the degree to which the cited references are analogous art to the application; (9) the number of references combined for the rejection; and (10) the degree to which the examiner cites to inapplicable case law.

A. Degree to Which References Show or Suggest All Elements of the Claim

The first factor to be considered is the degree to which the references relied upon in the rejection actually show or suggest all elements of the claim at issue. The case law and the MPEP require that all claim limitations be considered when judging the obviousness of that claim.¹³¹ Examiners sometimes fail to “explain where or how [the] cited art [teaches] or suggest[s] all of the features of a claimed invention.”¹³² Given the process of patent examination explained in Part II,¹³³ it is easy to see how this oversight might occur: once the pool of references has been gathered, the examiner may be tempted to stretch the contents of the prior art in the pool to make her rejections. However, the law still requires “an examiner [to] make ‘a searching comparison of the claimed invention—including all its limitations—with the teaching of the prior art.’”¹³⁴

It is well established that the prior art must usually disclose every limitation of a given claim under consideration, but perhaps this requirement is part of a larger guard against hindsight.¹³⁵ Given the examination process discussed in Part II,¹³⁶ it seems reasonable to infer that an examiner might be tempted to

¹³¹ See *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A. 1970); MPEP, *supra* note 44, § 2143.03.

¹³² Michael E. Kondoudis, *How to Respond to § 103 Rejections Using the “All Elements Test” in View of Recent Revisions to Section 2143.03 of the Manual of Patent Examining Procedure – Part II*, PATENTABLYDEFINED (May 27, 2008), <http://patentablydefined.com/2008/05/27/how-to-respond-to-%C2%A7-103-obviousness-rejections-using-the-%E2%80%9Call-elements-test%E2%80%9D-in-view-of-recent-revisions-to-section-214303-of-the-manual-of-patent-examining-procedure-part-ii/>.

¹³³ See *supra* Part II.A.

¹³⁴ *Ex parte Wada*, No. 2007-3733, 2008 WL 142652, at *4 (B.P.A.I. Jan. 14, 2008) (quoting *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995)); see also *In re Rijckaert*, 9 F.3d 1531, 1533 (Fed. Cir. 1993) (requiring that the prior art “disclose, suggest, or render obvious the claimed invention, either individually or when combined”).

¹³⁵ *Ex parte Wada*, 2008 WL 142652, at *4. Admittedly, there are exceptions to this rule; in particular, when a concept is so well-known that it need not be memorialized in prior art then it may not be necessary for the prior art to disclose that limitation. See MPEP, *supra* note 44, § 2144.03.

¹³⁶ See *supra* Part II.A.

stretch the contents of the prior art to make a rejection. If the claim element clearly defines “X,” and the references describe the similar but distinct concept of “Y,” there is a high degree of separation between the claim element and the references. If the examiner reads the claim element X into a reference that clearly states Y, it stands to reason that the examiner may have used hindsight to bridge the gap: the claimed invention is providing a roadmap that the element would have fit into the prior art. This is an exercise in impermissible hindsight analysis. Thus the extent to which the claim discloses certain elements that are not shown or suggested in the references is probative of the extent to which an examiner has relied upon impermissible hindsight to reject the claim as obvious.

B. Degree to Which the Rationale to Combine is Reasonable

The second factor to consider is the degree to which a rejection states a reasonable rationale to combine the references. In *KSR*, the Supreme Court reaffirmed the standard that the analysis made by the examiner should be explicit and that “some articulated reasoning with some rational underpinning [is required] to support the legal conclusion of obviousness.”¹³⁷ Thus, if the examiner thoroughly explains her reasoning for combining the references in a way that could reasonably make sense to a PHOSITA, then the examiner has met her procedural burden and may have made a proper rejection.¹³⁸ However, if the reasoning is not clearly presented in a sensible manner, or if the reasoning is merely conclusory, this suggests the use of impermissible hindsight in the selection and combination of the references.¹³⁹ If the combination cannot be explained, it seems likely that, in truth, the combination was derived using the applicant’s specification as a roadmap.¹⁴⁰ For example, the use of the applicant’s teaching to explain the combination of prior art references would be an obvious exercise in impermissible hindsight. The extent to which a rejection fails to state a reasonable rationale, or any rationale at all, to combine references may indicate the extent to which an examiner has relied upon impermissible hindsight to reject the claim as obvious.¹⁴¹

¹³⁷ *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)) (internal quotation mark omitted).

¹³⁸ *See id.*

¹³⁹ *See id.*

¹⁴⁰ *See id.*

¹⁴¹ *See id.*

C. Degree to Which Results Are Predictable

The predictability of the benefits and results of the technology is probative when determining whether an examiner has relied upon impermissible hindsight to combine references. Predictability has long been considered¹⁴² when making obviousness determinations. An examiner might best determine whether an inventor's solution is considered predictable by pausing to consider whether a PHOSITA would have had a "reasonable expectation of success" in combining the teachings of the prior art.¹⁴³ To be obvious, "absolute predictability of success" is not required, since "[t]here is always at least a possibility" that unexpected results could arise from the combination.¹⁴⁴ Further, as a general rule, more complex technologies are less likely to be predictable—patents for pharmaceutical compounds, for example, are "notorious[ly]" unpredictable.¹⁴⁵ In these types of complex technological fields, there are many parameters that might be varied. When the prior art provides little guidance as to which parameters might be most likely to successfully create the combination, the results are likely to be unpredictable and therefore nonobvious.¹⁴⁶ Though "unexpected results" are often analyzed as one of the secondary considerations contemplated by *Graham*,¹⁴⁷ the presence of unexpected results may also imply that the combinations of references made to reject claims were generated with the use of impermissible hindsight. Rejecting claims and combining references without a full appreciation that the invention would not predictably flow from the combination points toward the use of impermissible hindsight.

When an examiner combines references to form an obviousness rejection in a technological field with little predictability, that combination may be subject to some degree of impermissible hindsight. In unpredictable fields, a PHOSITA would have less expectation of success when combining elements known independently in the prior art. Stated differently, a PHOSITA would be more likely to experience unexpected results in an unpredictable field. The result of a simple substitution of one screw for a different type of screw is

¹⁴² See *In re O'Farrell*, 853 F.2d 894, 903 (Fed. Cir. 1988).

¹⁴³ See *Zoltek Corp. v. United States*, 95 Fed. Cl. 681, 692 (2010) (citing *Life Techs., Inc. v. Clontech Labs., Inc.*, 224 F.3d 1320, 1326 (Fed. Cir. 2000)).

¹⁴⁴ *In re O'Farrell*, 853 F.2d at 903.

¹⁴⁵ See *In re Kamal*, 398 F.2d 867, 871 (C.C.P.A. 1968); see also Sean B. Seymore, *Heightened Enablement in the Unpredictable Arts*, 56 UCLA L. REV. 127, 137–38 (2008).

¹⁴⁶ See *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1364 (Fed. Cir. 2007).

¹⁴⁷ See, e.g., *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 662–63 (Fed. Cir. 2000) (citing *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966)).

likely to be predictable and therefore obvious. However, in the context of other fields, the inventor may not have a similar expectation of success. It might even seem obvious in hindsight that a given combination or substitution could successfully be made, but it is likely the case that, at the time of filing, conventional wisdom could not have predicted that success. The extent to which the results or benefits of an invention are unpredictable is probative of the extent to which an examiner has relied upon impermissible hindsight to reject the claim as obvious.

D. Degree of Compatibility Among Cited References

Another factor to consider is the degree to which the references cited in the rejection are compatible with each other. The compatibility of the references has long been considered important to the overall question of obviousness¹⁴⁸ but also bears specifically on whether a rejection of claims for obviousness in a patent application is the product of impermissible hindsight. For example, in *In re Whiton*, a case concerning polymers used in “extruded and molded plastic articles,” the inventor “plasticiz[ed]” the polymer with a specific type of polyester to make it more flexible than its previously rigid state.¹⁴⁹ The examiner rejected the inventor’s claims based on several prior art references.¹⁵⁰ Two references disclosed a polymer similar to the one claimed that could be mixed with ingredients such as plasticizers to achieve flexibility.¹⁵¹ However, these references did not mention “any specific plasticizers suitable for use” with the polymers, so the examiner consulted other references for their disclosure of the inventor’s type of polyester used with a different type of polymer.¹⁵² The court concluded that no evidence existed to suggest that a PHOSITA would recognize that the polyester plasticizer used with one type of polymer would be compatible with the other type of polymer.¹⁵³ Because there was no evidence that the teachings of the references were compatible, the rejection based on those references was overturned and the invention was held to be nonobvious.¹⁵⁴

¹⁴⁸ See generally *In re Whiton*, 420 F.2d 1082 (C.C.P.A. 1970) (addressing the issue of obviousness in light of the compatibility of references particular to the patent in question).

¹⁴⁹ *Id.* at 1082–83 (internal quotation marks omitted).

¹⁵⁰ See *id.* at 1083.

¹⁵¹ See *id.*

¹⁵² See *id.* at 1084.

¹⁵³ See *id.* at 1085.

¹⁵⁴ See *id.* at 1085–86.

In cases like this one, it seems likely that the examiner focused upon finding claim elements in the prior art and lost sight of what a PHOSITA would have considered during the inventive process. In essence, such an examiner might have focused on finding elements of claims in references without pausing to consider how a PHOSITA would perceive the incompatibility of the references. If a PHOSITA viewed the teachings of the prior art as incompatible, she would be unlikely to combine them. The examiner, however, has the benefit of the claims to assist in finding each element of the invention, regardless of the compatibility of the references. Thus the extent to which a rejection relies upon references that are incompatible with each other is probative of the extent to which an examiner has relied upon impermissible hindsight to reject the claim as obvious.

E. Degree of Analysis of the Reference as a Whole

Another factor to consider is the degree to which the examiner has analyzed each reference as a whole; this analysis should also consider whether the examiner has considered the claimed invention as a whole. Case law has long stated, “The relevant portions of a reference include not only those teachings which would suggest particular aspects of an invention to one having ordinary skill in the art, but also those teachings which would lead such a person away from the claimed invention.”¹⁵⁵ This statement implies that the reference should be considered *in its entirety* in the determination of obviousness, not just the portions that seem to support the idea of the combination the examiner wants to make. An examiner’s reliance on “isolated teachings of the prior art without considering the over-all context within which those teachings are presented” is improper and should be considered when determining the use of impermissible hindsight.¹⁵⁶ The obviousness inquiry should not be focused on the “obviousness of substitutions and differences” but rather on the obviousness of the “invention as a whole.”¹⁵⁷

Choosing bits and pieces of the prior art that favor the combination the examiner wants to make, and failing to consider each reference as a whole, may indicate that the examiner has relied upon impermissible hindsight to make that combination. When researching a particular field of invention to inspire the next steps in the inventive process, the applicant would be faced

¹⁵⁵ *In re Mercier*, 515 F.2d 1161, 1166 (C.C.P.A. 1975).

¹⁵⁶ *Id.*

¹⁵⁷ *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1383 (Fed. Cir. 1986) (citing *Hodosh v. Block Drug Co.*, 786 F.2d 1136 (Fed. Cir. 1986)).

with the references as a whole instead of with key words or phrases that match the wording of her invention. Without the benefit of her not-yet-written claims guiding the search process, the applicant would not know which portions of the reference she should consider relevant and which portions might be overlooked during examination.¹⁵⁸ The examiner has the benefit of the claims before her. To use the claims to piece together information that a PHOSITA would not have combined when faced with the references as a whole is an exercise in impermissible hindsight reconstruction. Thus, the extent to which an examiner chooses bits and pieces of the prior art, and in doing so fails to consider the references as a whole, is probative of the extent to which an examiner has relied upon impermissible hindsight to reject the claim as obvious.

F. Degree to Which Combination Changes the Principle of Operation

Another factor that should be considered is the degree to which the proposed modification or combination of the prior art would change the principle of the operation of the prior art. Such a concept has long been considered relevant to patentability. For example, the Court of Customs and Patent Appeals found in *In re Ratti* that a particular combination of references did not constitute proper grounds for an obviousness rejection since the combination “would require a substantial reconstruction and redesign” of the prior art as well as a change in its principles of operation.¹⁵⁹ Though the Board of Patent Appeals and Interferences viewed *Ratti* as “non-controlling in law” following *KSR*, it also implied that a change in the principle of operation may be persuasive in fact, even if not in law.¹⁶⁰

A combination of references that would render a prior art technology unsatisfactory for its intended purpose seems to persuasively point toward the use of hindsight, even if such a finding is not controlling in law. When an examiner combines references without giving due consideration to whether the proposed combination would change the principle of operation of the primary reference, the building of the combination is more likely to be an exercise in impermissible hindsight. Again, the presence of key terms within multiple references may have supplanted real thought and reasoning as to why the

¹⁵⁸ *In re Mercier*, 515 F.2d at 1166.

¹⁵⁹ See *In re Ratti*, 270 F.2d 810, 813 (C.C.P.A. 1959). Of course, if the prior art would still operate according to the same principles, even once combined with elements of other references, then *Ratti* is inapplicable. *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012) (citing *In re Umbarger*, 407 F.2d 425, 430–31 (C.C.P.A. 1969)).

¹⁶⁰ See *Ex parte Purcell & Benedict*, No. 2008-004765, 2009 WL 1717401, at *5 (B.P.A.I. June 3, 2009).

combination would have reasonably been made by a PHOSITA. In this respect, the examiner may have ignored or may not have been cognizant of the fact that her combination required a change in the prior art that rendered it unsuitable for its intended purpose. The extent to which an examiner's rejection relies upon a combination of references that would change the principle of operation of the prior art may indicate the extent to which an examiner has relied upon impermissible hindsight to reject the claim as obvious.

G. Degree to Which References Teach Away from the Applicant's Combination

Another factor that should be considered is the degree to which the references cited in the obviousness rejection actually discourage the combination made in the claimed invention. To establish a prima facie case of obviousness, the examiner must offer some "articulated reasoning with some rational underpinning" to combine the teachings of prior art references.¹⁶¹ This combination may not be rationally made if one of the prior art references "teaches away from its combination with another source."¹⁶² A reference teaches away from the combination if

a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant . . . [or] if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant.¹⁶³

The Federal Circuit has also held that if the combination of two references "'would produce a seemingly inoperative device,' then they teach away from their combination."¹⁶⁴

By way of example, the Federal Circuit found this notion of teaching away in a case involving a "blood filter assembly" to remove clots and other items from a patient's blood before it was returned to the patient's body.¹⁶⁵ The prior art cited against the claimed invention was a "liquid strainer for removing dirt

¹⁶¹ *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006); see *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

¹⁶² *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1360 (Fed. Cir. 1999).

¹⁶³ See *id.* at 1360 (alterations in original) (quoting *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994)) (internal quotation mark omitted).

¹⁶⁴ *Id.* (quoting *In re Spinnoble*, 405 F.2d 578, 587 (C.C.P.A. 1969)).

¹⁶⁵ See *In re Gordon*, 733 F.2d 900, 900–02 (Fed. Cir. 1984) (internal quotation marks omitted).

and water from gasoline.”¹⁶⁶ The primary difference between the claimed invention and the prior art was the position of the inlet and outlet openings at the top or bottom of the device.¹⁶⁷ The court found that if the prior art strainer was “turned upside down” to look like the claimed invention, as suggested by the PTO Board of Appeals, “it would be rendered inoperable for its intended purpose.”¹⁶⁸ This inoperability led the Federal Circuit to conclude that the prior art taught away from the Board’s proposed modification.¹⁶⁹ This idea of teaching away was also found when the relevant references regarding “[t]ape of unsintered polytetrafluorethylene (PTFE)[,] (known by the trademark TEFLON of E.I. du Pont de Nemours, Inc.),”¹⁷⁰ suggested that, to avoid breakage, Teflon should be slowly stretched to the desired length.¹⁷¹ The inventor disregarded this conventional wisdom by stretching the Teflon as quickly as possible and found that this technique allowed him to stretch it to lengths he was previously unable to achieve.¹⁷² Because the prior art taught away from the method undertaken by the inventor, the inventor’s method was not obvious.¹⁷³

If the cited references would discourage a PHOSITA from making the combination of references to arrive at the invention claimed in the patent, but the examiner relies upon them for an obviousness rejection, that rejection implicates some degree of impermissible hindsight. It seems likely that the examiner ignored the full teaching of the reference, did not understand the full teaching of the reference, or did not read the reference at all. Only in hindsight would it be obvious to make a combination that the conventional wisdom warns against making or suggests is likely to be unsuccessful. The extent to which an examiner relies on references that teach away from the combination of the claimed invention may indicate the extent to which the examiner has relied upon impermissible hindsight to choose or combine the reference or references. The same is true when the rejection relies upon a combination of references that would render the prior art inoperable for its intended purpose,

¹⁶⁶ *See id.* at 901.

¹⁶⁷ *See id.* at 901–02.

¹⁶⁸ *Id.* at 902.

¹⁶⁹ *See id.*

¹⁷⁰ *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1544–45 (Fed. Cir. 1983).

¹⁷¹ *See id.* at 1545.

¹⁷² *See id.*

¹⁷³ *See id.* at 1552–53.

like the blood filter assembly above, and therefore implicitly teaches away from the combination.¹⁷⁴

H. Degree to Which References Are Analogous to the Application

Another factor that should be considered is the degree to which the references cited in the rejection are analogous to the art in the application. The concept of analogous art developed as courts and examiners attempted to define what a PHOSITA would have reasonably consulted in seeking a solution to the problem addressed by his or her invention. Not surprisingly then, “References . . . qualify as prior art for an obviousness determination only when analogous to the claimed invention.”¹⁷⁵ A reference is considered analogous art if “(1) . . . the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor’s endeavor, . . . [it] is still reasonably pertinent to the particular problem with which the inventor is involved.”¹⁷⁶ The analogous art test presumes that the inventor has full knowledge of all of the prior art in her field of endeavor and also “presume[s] knowledge [of] those arts reasonably pertinent to the particular problem” that the inventor was trying to solve.¹⁷⁷ The test recognizes, however, that it would be impossible for an inventor to be aware of “every teaching in every art,” so it attempts to “approximate the reality of the circumstances surrounding the making of an invention.”¹⁷⁸

Under the first prong of the test for analogous art, the examiner must “determine the appropriate field of endeavor by reference to explanations of the invention’s subject matter in the patent application, including the embodiments, function, and structure of the claimed invention.”¹⁷⁹ Courts have previously confined the field of endeavor to the scope articulated in the background section of the patent application¹⁸⁰ and have also allowed the use

¹⁷⁴ See *In re Gordon*, 733 F.2d at 900–02.

¹⁷⁵ *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) (citing *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992)).

¹⁷⁶ *Id.* (citing *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986)).

¹⁷⁷ *In re Wood*, 599 F.2d 1032, 1036 (C.C.P.A. 1979) (citing *In re Antle*, 444 F.2d 1168, 1171–72 (C.C.P.A. 1971)).

¹⁷⁸ *Id.*

¹⁷⁹ *In re Bigio*, 381 F.3d at 1325.

¹⁸⁰ See *id.* at 1325–26.

of references “hav[ing] essentially the same function and structure” as the invention.¹⁸¹

Under the second prong of the analogous test, “[a] reference is reasonably pertinent if, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering [her] problem.”¹⁸² This second prong was reinforced in *KSR* when the Court noted that “familiar items may have obvious uses beyond their primary purposes.”¹⁸³ By way of example, the Federal Circuit has found that an inventor considering a “hinge and latch mechanism for portable computers” could reasonably be expected to consider other types of hinges and latches such as “a desktop telephone directory, a piano lid, a kitchen cabinet, a washing machine cabinet, a wooden furniture cabinet, [and] a two-part housing for storing audio cassettes” even though these examples did not squarely fit within the inventor’s field of endeavor.¹⁸⁴

The analogous art test exists as a basis to argue that prior art does not apply, but if non-analogous art is cited by examiners, that citation may bear specifically on whether the examiner has relied upon impermissible hindsight to choose or combine the reference or references. If an examiner manages to cite non-analogous prior art, she did so without giving due consideration to whether the reference falls within the same field of endeavor as the invention or whether it is reasonably pertinent to the problem the inventor faced. For example, a citation to non-analogous art may occur because an examiner has performed a keyword search of the prior art and found a phrase within the reference that seems similar enough to the claimed invention. This method of choosing a piece of prior art, or choosing to combine more than one piece of prior art, does not give due consideration to whether a PHOSITA would have reasonably consulted that particular reference and applied its teaching in seeking a solution to the problem addressed by his or her invention. It follows that impermissible hindsight is the primary vehicle utilized to conclude that it would have been obvious to a PHOSITA to include the limitation presented by

¹⁸¹ *Id.* at 1326 (quoting *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986)) (internal quotation marks omitted).

¹⁸² *In re Icon Health and Fitness, Inc.*, 496 F.3d 1374, 1379–80 (Fed. Cir. 2007) (quoting *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992)) (internal quotation marks omitted).

¹⁸³ *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 420 (2007).

¹⁸⁴ *In re Icon*, 496 F.3d at 1380 (quoting *In re Paulsen*, 30 F.3d 1475, 1481–82 (Fed. Cir. 1994)) (internal quotation marks omitted).

the non-analogous reference in the claimed invention based on the similarity of terminology. Thus considering the extent to which an examiner cites non-analogous art may, as part of the framework as a whole, indicate the extent to which an examiner has relied upon impermissible hindsight to reject the claim as obvious.

I. Number of References Combined

The number of references combined to make an obviousness rejection may indicate whether the examiner has relied upon impermissible hindsight and should be considered as one factor in this proposed test. It is clear that the examiner may permissibly combine references for a rejection based on obviousness as long as she complies with other standards set forth in the MPEP and 35 U.S.C. § 103.¹⁸⁵ No rule exists that explicitly states the maximum number of references she may permissibly combine.¹⁸⁶ In fact, courts have held that the number of references combined to form a rejection is not a dispositive factor in determining obviousness.¹⁸⁷ In one case, a combination of about twenty references was not enough to show obviousness when the references “‘skirt[ed] all around’ the claimed invention.”¹⁸⁸ In another, the Federal Circuit clearly stated that the deciding principle of obviousness “is not the number of references, but what they would have meant to a person of ordinary skill in the field of the invention.”¹⁸⁹

Though it seems clear that the number of references combined to form a rejection is not a dispositive indicator of nonobviousness,¹⁹⁰ it should be considered as one factor in a flexible framework to determine the use of impermissible hindsight by the examiner. It makes sense that a greater number of references combined would suggest a higher degree of hindsight bias because it suggests that the examiner is stretching to find all of the elements of the claimed invention. The probability increases that the references are included as showing or suggesting particular elements of the claimed invention without due consideration for whether a PHOSITA would combine those

¹⁸⁵ See generally MPEP, *supra* note 44, § 2141 (treating combinations as common practice).

¹⁸⁶ See MPEP, *supra* note 44, § 2145.

¹⁸⁷ See *id.* at § 2145(V); see, e.g., *In re Gorman*, 933 F.2d 982, 986 (Fed. Cir. 1991); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1383 (Fed. Cir. 1986); *Kan. Jack, Inc. v. Kuhn*, 719 F.2d 1144, 1149 (Fed. Cir. 1983); *In re Troiel*, 274 F.2d 944, 947 (C.C.P.A. 1960); *In re Streckert*, 167 F.2d 1010, 1011 (C.C.P.A. 1948); *In re Miller*, 159 F.2d 756, 758–59 (C.C.P.A. 1947).

¹⁸⁸ *In re Gorman*, 933 F.2d at 986 (alteration in original) (quoting *Hybritech*, 802 F.2d at 1383).

¹⁸⁹ *Id.*

¹⁹⁰ See *id.*

references. As described in Part II,¹⁹¹ if the examiner cannot make a combination of references with relative ease that contains every element of the invention and would seem reasonable to a PHOSITA, then she is faced with either allowing the claim or, more likely, finding another way to reject it. At this point, the examiner will probably look to the application's claims to find which elements are missing from her established pool of references and will begin to search again for those elements. While it is possible that she will find a legitimate reference in this second round of searching, it is also possible that she is using the claim as a template to pick and choose pieces of many different references, which is an exercise in hindsight. When the examiner must combine many different references in order to substantiate the rejection, it becomes less likely that a PHOSITA would have reasonably looked to that number of sources to solve the problem she faced. This suggests the use of an impermissible degree of hindsight. The extent to which an examiner cites to a greater number of references is probative of the extent to which the examiner has relied upon impermissible hindsight to reject the claim as obvious.

J. Degree to Which Rejection Cites Inapplicable Case Law

The final factor that should be considered is the degree to which a rejection for obviousness cites to case law and, if so, the degree to which that case law is applicable to the facts at issue and applied appropriately. Though the examiner's task is often extremely difficult, this oversight occurs more often than it should, probably due in part to the lack of legal training the examiners have received.¹⁹² Section 2144.04 of the MPEP provides patent examiners with cases meant to serve as guidance to navigate common arguments made for and against obviousness during patent prosecution.¹⁹³ These cases are included as examples to be considered in light of their facts and limitations.¹⁹⁴ Problems arise, though, when "examiners sometimes apply [the MPEP examples] without having read the actual cases and therefore without a full understanding of the context and limitations of the legal holdings announced in those cases."¹⁹⁵ Some authors have compared the process to the popular children's game of "telephone," in which a message becomes distorted while being passed through several intermediary sources between the originator and the

¹⁹¹ See *supra* Part II.A.

¹⁹² See *supra* Part II.A.

¹⁹³ See Zuege & Beck, *supra* note 129, at 402; see also MPEP, *supra* note 44, § 2144.04.

¹⁹⁴ See Zuege & Beck, *supra* note 129, at 402.

¹⁹⁵ *Id.*

final recipient.¹⁹⁶ “By the time the cases from [the] MPEP . . . are cited against claims in patent applications, they are sometimes applied as sweeping *per se* pronouncements that find no support in the underlying cases and threaten to render all inventions unpatentable.”¹⁹⁷ The temptation to rely upon the MPEP without fully considering the reach of the cases it cites is understandable, especially given the examiner’s “difficult task in having to understand and analyze a broad range of technologies based only on the text of patent applications before them, which are not always easy to read or put in context.”¹⁹⁸ The standard remains, though, that the examiner must apply the law to the facts of the particular application before the PTO.¹⁹⁹ *Per se* rules which eliminate “the need for fact-specific analysis of claims and prior art may be administratively convenient for [US]PTO examiners and the Board [of Patent Appeals & Interferences]. Indeed, they have been sanctioned by the Board as well. But reliance on *per se* rules of obviousness is legally incorrect and must cease.”²⁰⁰

The extent to which an examiner relies on sweeping pronouncements from inapplicable case law may indicate the extent to which the examiner has relied upon impermissible hindsight to make the obviousness rejection. If an examiner relies upon a case, most likely one found in the MPEP, to reject a claim without properly examining the facts of the case in comparison with the application at issue, the examiner has not satisfied the procedural requirements of patent examination. The temptation to cite inapplicable case law might be especially great when, in light of the application before the PTO, the invention seems obvious to the examiner; in that case, citing to a case blurb included in the MPEP may serve as a convenient way to fill in the gaps between the facts of the application and what is taught by the references. This reliance may be an exercise in hindsight, and a greater number of citations to inapplicable case law may indicate a higher degree of hindsight. Thus, considering the degree to which an examiner cites inapplicable law would reduce the potential of the rejection being based on hindsight.

¹⁹⁶ *See id.*

¹⁹⁷ *Id.*

¹⁹⁸ *Id.* at 401.

¹⁹⁹ *See id.* at 402.

²⁰⁰ *Id.* at 402–03 (alterations in original) (quoting *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995)).

IV. POTENTIAL IMPACT ON PATENT EXAMINATION AND APPEAL

This Part analyzes the potential impact of adopting the test described in Part III on patent examination and appeal processes. It submits that arguing the factors discussed above in a response to rejections from the PTO might reduce the need for appeals and therefore reduce the financial burden on the applicant. This Part also considers the burden that would be placed on examiners, their supervisors, and the Patent Trial and Appeal Board (PTAB) if the test were adopted and attempts to dispel any concerns with that burden.

When the process of patent prosecution is conducted fairly and adequately by the PTO and the examiner, the proposed framework will bear this out. When the examiner pauses to consider whether a combination of references would reasonably be considered by a PHOSITA and concludes that it would, the examiner has fulfilled her procedural duty under the proposed framework, even if the substance of her decision may be debated by the prosecuting attorney. To the extent that a rejection is based on impermissible hindsight, the factors considered should reveal this to be true. When a rejection is sound, the factors considered should bear this out as well. The task of arguing to the examiner that she has relied upon impermissible hindsight when examining the case at hand is a delicate one, but it may be a more attainable task for applicants who cannot yet produce evidence of the secondary considerations of *Graham*.

Adopting this test could also reduce the financial burden of patent prosecution. In the current process, if an examiner refuses to allow claims that the prosecuting attorney maintains are nonobvious, the best recourse available is to file an appeal. The appeal process can be expensive when considering the appeal fees imposed by the PTO as well as reasonable attorneys' fees, especially when compared to the cost of filing an application, and may be overly burdensome for small entity inventors.²⁰¹ The recently passed America Invents Act reduced all patent-prosecution- and appeal-related fees for small and micro entities,²⁰² which suggests congressional policy concern about the cost to small businesses of obtaining and maintaining a patent portfolio. Because adopting this test could reduce the need for appeals, it could similarly reduce the financial burden on entities small and large when faced with rejections on arguably nonobvious subject matter.

²⁰¹ See *Fee Schedule—Patent Trial and Appeal Fees*, U.S. PAT. & TRADEMARK OFF., <http://www.uspto.gov/web/offices/ac/qs/ope/fee010114.htm#appeal> (last revised Mar. 1, 2015).

²⁰² See Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 10(b), 125 Stat. 284, 316–18 (2011).

Some would argue that considering ten factors as part of a larger test unduly burdens the examiner or anyone reviewing the examiner's work, including a supervisor or the PTAB. This Comment submits that the framework proposed here is an even-handed one: the burden is placed on both the examiner *and* the prosecuting attorney. The examiner will need to be more deliberate and thoughtful in making rejections, and the prosecuting attorney will have an avenue through which to assess whether those rejections are based upon impermissible hindsight. Moreover, multifactor tests are currently used in other areas of patent law: the eight *Wands* factors for enablement,²⁰³ the thirteen factors for experimental use,²⁰⁴ and of course the four *Graham* factors already discussed in this Comment at length.²⁰⁵ In addition, other legal fields commonly employ multifactor tests. One closely related example is the test for likelihood of confusion in trademark law, which most jurisdictions apply as an eight- or nine-factor test.²⁰⁶

The particular framework proposed in this Comment not only echoes the ease of multifactor tests commonly utilized in patent law as well as other fields, but it also embodies the flexibility that the Supreme Court emphasized with respect to obviousness determinations in *KSR*. None of the factors proposed here are dispositive, but they must be considered in the totality of the circumstances. Applying tests similar to the one proposed here is a burden commonly shouldered by courts and one that should be easily borne by examiners whenever the need may arise. If the burden of applying the test is not shouldered by examiners, patent attorneys are left with little to counterbalance the possibility that an examiner has impermissibly relied upon hindsight to reject the applicant's patent claims as obvious. Requiring the examiner to shoulder the burden of the framework described in Part III admittedly places a large burden on examiners as well as their supervisors, but the benefit of adopting such a framework—providing recourse to patent applicants who may otherwise be unfairly deprived of patent claims they deserve—outweighs the cost.

²⁰³ See *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988).

²⁰⁴ See *Electromotive Div. of Gen. Motors Corp. v. Transp. Sys. Div. of Gen. Elec. Co.*, 417 F.3d 1203, 1213 (Fed. Cir. 2005).

²⁰⁵ See *supra* Part I.A.

²⁰⁶ See *Polaroid Corp. v. Polaroid Elecs. Corp.*, 287 F.2d 492 (2d Cir. 1961). The likelihood of confusion factors originated in the *Polaroid* case but are also well known as the “*DuPont* factors.” See *In re E.I. DuPont de Nemours & Co.*, 476 F.2d 1357 (C.C.P.A. 1973); see also *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 18 (1966) (noting that the judiciary routinely faces complicated inquiries, using negligence and scienter as examples).

CONCLUSION

The issue of obviousness has been one of the most difficult determinations in patent law since the passage of the Patent Act of 1952. One of the foremost concerns within the requirement of obviousness has been the fear of hindsight bias affecting the determination. To combat that possibility, the Federal Circuit developed the bright-line rule of the TSM test. Though the Supreme Court attempted to clarify the standard for obviousness in *KSR* by rejecting the use of the TSM test as the sole test for obviousness, many questions remain unanswered, including how to best guard against the use of impermissible hindsight during patent examination.

This Comment has proposed a framework for evaluating whether an examiner has relied upon impermissible hindsight to reject a patent as obvious under 35 U.S.C. § 103 during the examination process. Recognizing that some degree of hindsight is necessarily employed in patent examination, the proposed framework utilizes a number of factors, considered in the totality of the circumstances, that will focus the hindsight inquiry specifically on whether the degree of hindsight relied upon by the examiner has crossed the threshold between allowable, unavoidable hindsight and the bias of impermissible hindsight. Most of the factors are drawn from questions that courts have considered important to the overall determination of patentability, or in some cases obviousness in particular, and this Comment suggests that all of these factors bear on the question of hindsight.

The adoption of the proposed framework would provide a strategy for patent practitioners to argue that an examiner must have relied upon impermissible hindsight to reject a claim as obvious. In some cases, the framework may weigh against the applicant, as is the nature of any balancing test. However, the goal of this Comment's proposed framework is not to always weigh in favor of the applicant but rather to provide an avenue for discussion among the applicant, the examiner, and if necessary the PTAB or Federal Circuit. The burden placed upon examiners is a necessary one if the

patent system is to properly weigh the interest of the inventor in protecting her invention while granting patents only for significant leaps in innovation.

ASHLEY ALLMAN BOLT*

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