

## “INVENTIVE STEP” Stepping Over the Nonobviousness Requirement in the United States

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The concept of “nonobviousness” in the United States, or “inventive step” elsewhere in the world, generally reflects the idea that an invention should be sufficiently nonobvious (or inventive) in order to be patentable. Essentially, notwithstanding the subtle and not-so-subtle differences between jurisdictions, “[t]he non-obviousness [or inventive step] principle asks whether the invention is an adequate distance beyond or above the state of the art.”<sup>1</sup> With that in mind, let us delve into the United States standard.

Judge Learned Hand once famously lamented that the “obviousness” requirement was as “fugitive, impalpable, wayward and vague a phantom as exists in the whole paraphernalia of legal concepts.”<sup>2</sup> This presentation will strive to make that phantom more visible.

We begin with the 35 U.S.C. § 103, which codified the Supreme Court’s early obviousness doctrine as articulated in *Hotchkiss v. Greenwood*.<sup>3</sup> The statute states:

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. Patentability shall not be negated by the manner in which the invention was made.<sup>4</sup>

The Supreme Court of the United States set forth the framework for applying § 103 in *Graham v. John Deere Co. of Kansas City*.<sup>5</sup>

Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but

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<sup>1</sup> John H. Barton, *Non-Obviousness*, 43 IDEA 475 (2003).

<sup>2</sup> *Harries v. Air King Prods. Co.*, 183 F.2d 158, 163 (2d Cir. 1950).

<sup>3</sup> 52 U.S. 11 (1850).

<sup>4</sup> Post-AIA statute. The AIA amendments to § 103 retain the statutory provisions of former Section 103(a) with the exception that the AIA provides that the obviousness determination with reference to the effective filing date of the invention while the old law references the date that the invention was made. Thus, under revised § 103, skill in the art is measured just before the effective filing date and not at the time the invention was made.

<sup>5</sup> 383 U.S. 1 (1966).

unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.<sup>6</sup>

Let's start by breaking down the *Graham* framework.

### **First Graham inquiry: the scope of the prior art**

Under *Graham*, a court must determine the scope of the prior art in existence before the effective filing date. According to Supreme Court dicta, the scope of the prior art includes (1) every patent issued in any country; (2) every publication printed in any country in any language; and (3) everything used or known in the United States.<sup>7</sup>

According to the USPTO, only two subsections of the AIA identify prior art: Section 102(a)(1) includes in the prior art a prior public disclosure, regardless of how the disclosure was made, as of the date it was publicly accessible and 102(a)(2) includes in the prior art a U.S. patent, U.S. patent application publication (PGPub), or WIPO published PCT (international) application, as of the date its subject matter was effectively filed.<sup>8</sup>

A one year grace period applies to the applicant's own prior disclosures excluding them from the definition of invalidating “prior art,” including disclosures by joint inventors or others who obtained the disclosed subject matter directly or indirectly from the inventor.<sup>9</sup>

Some illustrative Federal Circuit cases defining the scope of the prior art are listed below:<sup>10</sup>

*In re Klein*, 647 F.3d 1343, 1348, 98 USPQ2d 1991 (Fed. Cir. 2011) (The TTAB erred in ruling that inventions on partitioned tool trays and cabinet drawers were relevant prior art that rendered a later invention on a partitioned tray for mixing liquids obvious, where none of the earlier inventions were suitable for mixing liquids and, hence, analogous to the claimed invention. “A reference qualifies as prior art for an obviousness determination under § 103 only when it is analogous to the claimed invention. (Citations omitted). ‘Two separate tests define the scope of analogous prior art: (1) whether 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,

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<sup>6</sup> *Id.* at 17–18.

<sup>7</sup> See Cyril A. Soans, *Some Absurd Presumptions in Patent Cases*, 10 PAT. TRADEMARK & COPY. J. OF RES. & ED. 433, 438 (1966). This scope is important because the PHOSITA is presumed to have read, understood, and remembered every existing reference from the prior art. *Standard Oil Co. v. Am. F.2d Cyanamid Co.*, (Fed. Cir. 1985).

<sup>8</sup> [http://www.uspto.gov/aia\\_implementation/fitf\\_comprehensive\\_training\\_prior\\_art\\_under\\_aia.pdf](http://www.uspto.gov/aia_implementation/fitf_comprehensive_training_prior_art_under_aia.pdf); see also *Ormco Corp. v. Align Technology, Inc.*, 463 F.3d 1299, 1305, 79 U.S.P.Q.2d 1931 (Fed. Cir. 2006) (“‘Prior art’ in the obviousness context includes the material identified in section 102(a).”).

<sup>9</sup> 35 U.S.C.A. § 102(b)(1), as amended by the America Invents Act § 3 (effective for patents issued or applied for on or after March 16, 2013). This requirement is absent in the EU.

<sup>10</sup> 1 Holmes, INTELLECTUAL PROPERTY AND ANTITRUST LAW § 1:14.

whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.”);

*Geo. M. Martin Co. v. Alliance Machine Systems Intern. LLC*, 618 F.3d 1294, 1302, 96 USPQ2d 1212 (Fed. Cir. 2010) (The district court properly considered a previous publicly-disclosed machine that contained all of the elements of the patentee's claimed invention as prior art when finding the claimed invention to be obvious, even though the machine had been abandoned as a commercial failure. “Under an obviousness analysis, a reference need not work to qualify as prior art; ‘it qualifies as prior art, regardless, for whatever is disclosed therein.’ (Citation omitted). ‘Even if a reference discloses an inoperative device, it is prior art for all that it teaches.’”);

*Dippin' Dots, Inc. v. Mosey*, 476 F.3d 1337, 81 USPQ2d 1633, 2007-1 Trade Cas. (CCH) P 75590 (Fed. Cir. 2007) (the inventor's sale, more than one year before filing his patent application, of products using most—but not all—of the steps in his claimed process was prior art that supported a jury verdict of obviousness when combined with other prior art references cited by the examiner in the application proceedings. “Prior art under the § 102(b) on-sale bar is also prior art for the purposes of obviousness under § 103.”);

*Ormco Corp. v. Align Technology, Inc.*, 463 F.3d 1299, 1305, 79 USPQ2d 1931 (Fed. Cir. 2006) (a prior orthodontic technique that was promoted to orthodontists at seminars and clinics and described in instruction sheets distributed at the clinics constituted prior art for purposes of a section 103(a) obviousness analysis. “‘Prior art’ in the obviousness context includes the material identified in section 102(a). (Citation omitted). ... Art that is not accessible to the public is generally not recognized as prior art.”).

Scholars have pointed out the very extensive scope of the prior art that is deemed to be known to and understood by the person having ordinary skill in the art (“PHOSITA”).<sup>11</sup> The prior art includes things that are extremely difficult to find, for example a single copy of a doctoral dissertation in a library in a foreign country,<sup>12</sup> an entry in a commercial catalogue circulated overseas,<sup>13</sup> or a few uses of an unpublished process somewhere inside the United States.<sup>14</sup> The prior art also includes things that even impossible to find, like unpublished patent specifications pending at the Patent Office<sup>15</sup> and inventions still held in confidence by other inventors.<sup>16</sup>

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<sup>11</sup> See Michael Abramowicz, John F. Duffy, The Inducement Standard of Patentability, 120 YALE L.J. 1590, 1606 (2011)

<sup>12</sup> See *In re Hall*, 781 F.2d 897, 898 (Fed. Cir. 1986).

<sup>13</sup> See 35 U.S.C. § 102(a).

<sup>14</sup> See *id.*

<sup>15</sup> See *Hazeltine Research, Inc. v. Brenner*, 382 U.S. 252, 255-56 (1965) (holding that § 102(e) patent applications are a source of prior art for purposes of § 103).

<sup>16</sup> See *In re Bass*, 474 F.2d 1276, 1283 (C.C.P.A. 1973) (counting as within the prior art an earlier invention as long as that invention was not abandoned, suppressed, or concealed, even if the invention was not available to the public at the relevant time).

## **Second Graham inquiry: the gap between the prior art and the claimed invention**

Graham requires a court to determine what is claimed and then determine the difference between that and the prior art. In other words, one must define a “gap” between the prior art and the invention for which patentability is sought.

## **Third Graham inquiry: the person having ordinary skill in the pertinent art (PHOSITA)**

*Graham* requires a court to define “a person having ordinary skill in the pertinent art.” In litigation, the scope of patent protection depends greatly on the court’s determination of the level of ordinary skill in the art for the particular field of invention.

The Federal Circuit has attempted to set standards that define the level of skill of the PHOSITA. One Federal Circuit case, *Env'tl. Designs, Ltd. V. Union Oil Co. of Cal.*, listed factors to be considered in determining level of ordinary skill.<sup>17</sup> Those factors include: (1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.<sup>18</sup> Commentators, however, continue to criticize the undefined level of ordinary skill.<sup>19</sup>

Traditionally, the PHOSITA has been the equivalent of an extremely well-read robot — a dull person with no creativity; there was no support in the case law suggesting that the PHOSITA is able to fit the teachings of multiple patents together like the pieces of a puzzle.<sup>20</sup> In fact, the lack of ingenuity of the PHOSITA was used as a measure against hindsight bias. (A person of ordinary creativity with access to all prior art would seem to have no problem combining the prior art to create the claimed invention.) However, in 2007, the U.S. Supreme Court in *KSR Int'l Co. v. Teleflex Inc.* endowed the PHOSITA with “creativity.”<sup>21</sup> Some have criticized that by bestowing creativity upon the PHOSITA, the Supreme Court has transformed the PHOSITA from one with ordinary skill into a researcher, thereby removing a check on hindsight bias.<sup>22</sup>

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<sup>17</sup> 713 F.2d 693, 696 (Fed. Cir. 1983).

<sup>18</sup> Citing *Orthopedic Equipment Co., Inc. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376 at 1381–1382 (Fed.Cir.1983).

<sup>19</sup> See, e.g., Gregory Mandel, *The Non-Obvious Problem: How the Indeterminate Nonobviousness Standard Produces Excessive Patent Grants*, 42 U.C. DAVIS L. REV. 57, 74 (2008).

<sup>20</sup> *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 127 S. Ct. 1727, 1731, 167 L. Ed. 2d 705 (2007).

<sup>21</sup> *KSR*, 550 U.S. at 421. (“[A] person of ordinary skill is also a person of ordinary creativity, not an automaton.”)

<sup>22</sup> See Michael Abramowicz, John F. Duffy, *The Inducement Standard of Patentability*, 120 YALE L.J. 1590, 1607 (2011) (“Whatever administrability benefit the courts once derived from their textually implausible construction of ‘ordinary’ is thus lost today. The cognitive approach provides no guide for determining what constitutes ‘ordinary creativity.’ Even if creativity could be measured by something like IQ, the cognitive approach provides no basis for determining, even at a conceptual level, what an appropriate cutoff would be.”)

Before addressing how a court must bridge the gap in U.S. nonobviousness jurisprudence, we should first take a closer look at the developments in the law following the *KSR* decision.

### **Post-KSR standard**

The Supreme Court revisited the standard of nonobviousness in *KSR Int'l Co. v. Teleflex Inc.* In *KSR*, the Supreme Court reaffirmed the *Graham* framework, but emphasized that § 103 and judicial precedent requires an “expansive and flexible” approach to determining obviousness.<sup>23</sup>

*KSR* involved an infringement action over a patent directed to connecting an electronic throttle control to adjustable vehicle control pedals. Applying the obviousness factors articulated in *Graham*, the district court ruled that the patent claim was obvious, finding little difference between the prior art and the claim at issue.<sup>24</sup> The district court further stated that the Federal Circuit’s “teaching, suggestion, and motivation” (TSM) test was met because the claimed structure would have inevitably been derived in the industry based on teachings in the prior art.<sup>25</sup> The Federal Circuit held that the district court failed to apply the TSM test strictly enough and reversed.<sup>26</sup> On appeal, the Supreme Court reversed, reasoning that the Federal Circuit addressed the obviousness question in a narrow and rigid manner that is inconsistent with both § 103 and *Graham*. The Supreme Court reaffirmed in *KSR* that “a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.”

*KSR* held that when determining whether a claim is obvious, it is error to only regard the problem that the patentee was attempting to solve in developing the invention because such a limited inquiry only takes into account what the patentee may have thought was obvious, not what a person of ordinary skill in the art would consider to be obvious. “Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” The Supreme Court explained that it is error for a court to assume that one of ordinary skill in the art attempting to solve a certain problem would be led only to those elements of prior art that are designed to solve the same problem.

*KSR* mentioned several factors that could show that a PHOSITA would combine or change the prior art to “bridge the gap” and render the invention obvious. These include: the inherent traits and common sense of

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<sup>23</sup> *KSR* at 401.

<sup>24</sup> *Id.* at 399–401.

<sup>25</sup> *Id.* at 399–400.

<sup>26</sup> *Id.*

the PHOSITA<sup>27</sup>; the ordinary creativity of the skilled artisan<sup>28</sup>; marketplace demands<sup>29</sup>; the combination of the prior art elements was obvious to try<sup>30</sup>.

Below is a summary of *KSR* points:<sup>31</sup>

- The Court rejected a rigid application of the TSM test, noting that “[t]hroughout this Court's engagement with the question of obviousness, our cases have set forth an expansive and flexible approach inconsistent with the way the Court of Appeals applied its TSM test here.”
- The Court reiterated its longstanding policy that a “patent for a combination which only unites old elements with no change in their respective functions . . . obviously withdraws what is already known into the field of its monopoly and diminishes the resources available to skillful men.” The Court stressed that “[t]his is a principal reason for declining to allow patents for what is obvious. The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”
- Nevertheless, the Court has also relied on the corollary principle that when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious. Thus, the fact that otherwise obvious elements worked together in an unexpected and fruitful manner could support the conclusion that a design is not obvious to those skilled in the art.
- Patents have failed for obviousness under § 103 when, for example, the patent “simply arranges old elements with each performing the same function it had been known to perform” and yields no more than one would expect from such an arrangement, the combination is obvious.
- If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.
- Thus, as illustrated by *Sakraida*<sup>32</sup> and *Anderson's-Black Rock*<sup>33</sup>, a court must ask whether the improvement is more than the predictable use of prior art elements according to their

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<sup>27</sup> *KSR*, 550 U.S. at 420–21 (“Common sense teaches ... that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.”).

<sup>28</sup> See *infra* note 10.

<sup>29</sup> *KSR* at 401 (“[D]emands known to the design community or present in the marketplace . . . .”)

<sup>30</sup> *KSR*, 550 U.S. at 421 (“when there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103.”).

<sup>31</sup> 49 N.J. Prac., Business Law Deskbook § 14:14 (2013-2014 ed.)

<sup>32</sup> *Sakraida v. Ag Pro Inc.*, 425 U.S. 273 (1976).

<sup>33</sup> *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57 (1969).

established functions. In following these principles, oftentimes it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit. However, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

- A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.
- A rigidly applied TSM test based on mandatory formulas is incompatible with Supreme Court precedents. The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way. In many fields it may be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends. Granting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility.
- In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103.
- One of the ways in which a patent's subject matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent's claims. Courts and patent examiners should not limit their focus only to the problem the patentee was trying to solve (after all, the problem motivating the patentee may be only one of many addressed by the patent's subject matter). The question is not whether the combination was obvious to the patentee but whether the combination was obvious to a person with ordinary skill in the art. Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.
- It is error for a court to assume that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem. The primary purpose of Asano was solving the constant ratio problem; so, the court concluded, an inventor considering how to put a sensor on an adjustable pedal would have no reason to consider putting it on the Asano pedal. Common sense teaches, however, that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle. Regardless of Asano's primary purpose, the design provided an obvious example of an adjustable pedal with a fixed pivot point; and the prior art was replete with patents indicating that a fixed pivot point was an ideal mount for a sensor. The idea that a designer hoping to



make an adjustable electronic pedal would ignore Asano because Asano was designed to solve the constant ratio problem makes little sense. A person of ordinary skill is also a person of ordinary creativity, not an automaton.

- It is error for a court to conclude that a patent claim cannot be proved obvious merely by showing that the combination of elements was “obvious to try.” When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103.
- Rigid preventative rules addressing hindsight bias that deny factfinders recourse to common sense are neither necessary nor consistent with Supreme Court case law.

### **Bridging the gap between the prior art and claimed invention**

The obviousness analysis under U.S. law requires a court to assess whether a PHOSITA with knowledge and understanding of all prior art in the pertinent field would “bridge the gap” between the prior art and the invention claimed. If so, the invention is obvious and thus not patentable.<sup>34</sup>

To assist in this analysis, *Graham* endorsed the use of “secondary considerations” in the gap bridging analysis that examine “economic and motivational . . . issues.”<sup>35</sup> Such secondary considerations include “commercial success, long felt but unsolved needs, failure of others, etc.”<sup>36</sup> Following *Graham*’s endorsement of secondary considerations, courts have adopted the secondary-considerations analysis as a critical part of the nonobviousness inquiry.<sup>37</sup> The most commonly cited secondary considerations have been commercial success,

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<sup>34</sup> The Court applied this gap measuring approach to the patent in *Graham*. The dispute in *Graham* involved a patent claim for device designed to absorb shock from plow shanks in rocky soil to prevent damage to the plow. *Graham*, 383 U.S. at 19–21. The difference (the gap) between the prior art and the claimed invention was the location of the hinge plate on the plow; the prior art hinge was placed below the pivot point of the shank while the invention’s hinge was placed above. *Id.* at 19–22. The patentee argued that this difference was nonobvious because placing the hinge plate above the pivot point allowed more flexibility in the shank, and thus less vibration in the plow. *Id.* at 21–23. The Court concluded otherwise because, given the well-known problem of plow vibration, “a person having ordinary skill in the prior art . . . would immediately see that the thing to do was what *Graham* did, i.e., invert the shank and the hinge plate.” The gap was too small for a skilled artisan given that “[t]he only other effective place available in the arrangement was to attach it below the hinge plate.” *Id.* at 24–25.

<sup>35</sup> *Graham v. John Deere Co.*, 383 U.S. 17, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966).

<sup>36</sup> *Graham*, 383 U.S. at 17–18.

<sup>37</sup> See Natalie A. Thomas, Secondary Considerations in Nonobviousness Analysis: The Use of Objective Indicia Following *KSR v. Teleflex*, <http://www.nyulawreview.org/sites/default/files/pdf/NYULawReview-86-6-Thomas.pdf>.



long-felt but unmet need, failure of others, and professional approval or skepticism.<sup>38</sup> Another secondary factor is unexpected results.<sup>39</sup>

Following *KSR*'s rejection of the TSM test as the sole test used for determining nonobviousness, litigants have relied more on secondary factors to support a showing of nonobviousness. However, whether that approach has been successful is debatable.<sup>40</sup>

Generally, a party seeking to invalidate a patent as obvious must “demonstrate ‘by clear and convincing evidence that a skilled artisan would have had reason to combine the teaching of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success from doing so.’”<sup>42</sup>

### **Predictable vs. Unpredictable Arts**

Different fields of invention have been broadly categorized as “predictable” and “unpredictable” arts in the scholarship. That categorization largely depends upon the degree to which the knowledge base of the PHOSITA can be used to achieve potentially patentable new results.<sup>43</sup> Accordingly, “predictable arts include mechanical and electrical inventions, while unpredictable arts include chemical and physiological inventions.”<sup>44</sup> The *KSR* ruling may have different implications depending on whether the invention sought to be patented falls within the predictable or unpredictable arts.

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<sup>38</sup> See generally SCHWARTZ & GOLDMAN, *supra* note 29, at 91–93 (listing commonly invoked secondary considerations); Whelan, *supra* note 30, at 366

<sup>39</sup> The USPTO MPEP 716.02(a) lists several examples of unexpected results that are able to overcome “obviousness,” such as greater than expected results, superiority of a property shared with the prior art, presence of an unexpected property, and absence of an expected property.

<sup>40</sup> See Natalie A. Thomas, Secondary Considerations in Nonobviousness Analysis: The Use of Objective Indicia Following *KSR v. Teleflex*, <http://www.nyulawreview.org/sites/default/files/pdf/NYULawReview-86-6-Thomas.pdf>.

<sup>41</sup> See <http://www.nyulawreview.org/sites/default/files/pdf/NYULawReview-86-6-Thomas.pdf> at 2086–87.

<sup>42</sup> *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litigation*, 676 F.3d 1063, 1068–69, 102 USPQ2d 1760 (Fed. Cir. 2012), cert. denied, 133 S. Ct. 933, 184 L. Ed. 2d 725 (2013) (citing *Procter & Gamble Co. v. Teva Pharmaceuticals USA, Inc.*, 566 F.3d 989, 994, 90 USPQ2d 1947 (Fed. Cir. 2009); *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361, 82 USPQ2d 1321 (Fed. Cir. 2007)). See also *Amgen Inc. v. F. Hoffman-LA Roche Ltd*, 580 F.3d 1340, 1362, 92 USPQ2d 1289 (Fed. Cir. 2009) (“An obviousness determination requires that a skilled artisan would have perceived a reasonable expectation of success in making the invention in light of the prior art.”) (citations omitted).

<sup>43</sup> David Tseng, *Not All Patents are Created Equal: Bias Against the Predictable Arts Patents in the Post-KSR Landscape*, 13 CHICAGO-KENT J. OF INTELLECTUAL PROP. 165, 167 (2012) (citing *Rothman v. Target Corp.*, 556 F.3d 1310, 1318 (Fed. Cir. 2009) (“In the predictable arts, a trial record may more readily show a motivation to combine known elements to yield a predictable result.”)).

<sup>44</sup> *Id.*

The United States Patent and Trademark Office (USPTO) has responded to the *KSR* ruling by amending its examination guidelines to include seven potential rationales for finding obviousness.<sup>45</sup>

- 1) combining prior art elements according to known methods to yield predictable results;
- 2) simple substitution of one known element for another to obtain predictable results;
- 3) use of known technique to improve similar devices, methods, or products in the same way
- 4) applying a known technique to a known device, method, or product ready for improvement to yield predictable results;
- 5) “obvious to try”-choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- 6) known work in one field of endeavor may prompt variations of its use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the arts; and
- 7) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference teachings to arrive at the claimed invention.

Most of these guidelines refer to whether the elements were already “known” and whether the art is “predictable.” Further, the USPTO released similar 2010 guidelines that focus on Federal Circuit cases involving three rationales: combining prior art elements, substitution of known methods with another, and obvious to try.<sup>46</sup> Because the predictability of the technology increases the scope and content of the knowledge base of the PHOSITA, these USPTO guidelines show that it may be more difficult to pass the nonobviousness test for predictable arts post-*KSR*.

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<sup>45</sup> Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*, 72 FR 57526 (Oct. 10, 2007), 1324 Off. Gaz. Pat. Office 23 (Nov. 6, 2007).

<sup>46</sup> Examination Guidelines Update: Developments in the Obviousness Inquiry After *KSR v. Teleflex*, 75 Fed. Reg. 53,643-01, 53,645 (Sept. 1, 2010); see also David Tseng, *Not All Patents are Created Equal: Bias Against the Predictable Arts Patents in the Post-KSR Landscape*, 13 CHICAGO-KENT J. OF INTELLECTUAL PROP. 165, 167 (2012).