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JUDGES ARE ABUSING THEIR AUTHORITY TO DETERMINE OBVIOUSNESS BY APPLYING KSR WITHOUT CHANGING THE LEGAL STANDARD OF REVIEW

Colleen Murphy*

I. INTRODUCTION

Judges decide whether patents can withstand challenges of obviousness as a matter of law.¹ For example, consider a patent that exists for a stool comprised of a seat with three legs. A second patent exists for a table with four legs. A third inventor then creates a stool that combining elements from the first two patents. It contains a seat, similar to the first stool, but is built with four legs like the table. If the new invention is challenged, a judge would decide as a matter of law whether the new invention is an “obvious” combination of the prior patents.

This example illustrates the broad discretion judges retain when deciding what is obvious as a matter of law. Part II of this Comment describes the statutory requirements to obtain a patent and how the Supreme Court’s decision in KSR International Co. v. Teleflex Inc. changed this area of law. Part III discusses the lower courts’ application of KSR in recent cases. Part IV examines problems encountered by the lower courts in applying KSR without changing the legal standard of review. Finally, Part V concludes that, in light of KSR, judges have too much discretion when determining a patent’s validity.

II. STATUTORY PROVISIONS AND RELATED CASES

The Constitution gives Congress the right to grant patent monopolies “[t]o promote the Progress of Science and useful Arts.”² Before such a monopoly may be granted, however, an individual must show that his invention is “nonobvious” in order to obtain a patent.³ This precludes

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² U.S. Const. art. I, § 8, cl. 8. This exclusive right was intended to induce inventors to publically disclose their invention through the patent system; however, the right was not to be freely given. Graham, 383 U.S. at 17. These monopolies were only to be given to inventions and discoveries that furthered human knowledge. Id.
the issuance of a patent for an invention that differs from prior inventions in only minor ways that are obvious at the time the new invention was made to a person having ordinary skill in the art to which the subject matter pertains. The Supreme Court has set forth the framework for deciding whether an invention is obvious.

A. Statutory Provisions

In order to obtain a patent, Congress has provided three requirements: the invention must be useful, novel, and nonobvious. Under the low threshold requirement of usefulness, an invention only needs to have some identifiable benefit. The novelty requirement prevents obtaining a patent if the invention was either known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention by the applicant. The third requirement of nonobviousness is the focus of this Comment. If a pending patent is obvious to a person with ordinary skill in the specific field, meaning that it simply combines elements of prior inventions, then the pending patent will not be issued. Similarly, if an issued patent is subsequently found to have been obvious at the time it was invented, it can be invalidated.

B. Determining Obviousness

The Supreme Court held that the obviousness of an invention is a question of law that must be determined by a judge. Lower courts created the Teaching, Suggestion, or Motivation (TSM) test to guide this determination. Under the TSM test, an invention is deemed to be obvious if there is specific language in the prior inventions to teach, suggest, or motivate the combination of these inventions to form the new

4. Id.
5. Graham, 383 U.S. at 17.
7. Id.
9. 35 U.S.C. § 102(a) (2006). This statute also describes the type of prior references that can be compared to an invention in order to determine if it is obvious. OddzOn Prods., Inc. v. Just Toys, Inc., 122 F.3d 1396, 1402–03 (Fed. Cir. 1997).
11. Id.
2010] MISAPPLYING KSR

invention.\textsuperscript{14} The Supreme Court, however, disagreed with the TSM approach in \textit{KSR}.\textsuperscript{15} Instead, the Court broadened the obviousness analysis to include more rationales based on the common sense and intuition of a person having ordinary skill in the relevant art.\textsuperscript{16}

1. Pre-\textit{KSR}

In \textit{Graham v. John Deere Co.}, the Supreme Court pronounced factual inquiries to serve as the basis for determining whether a patent is obvious.\textsuperscript{17} The Court had to determine whether an invention that combined old mechanical elements of a plow to better absorb shock while plowing rocky soil was obvious.\textsuperscript{18} The Court held that in making the obviousness determination, certain underlying factual inquiries were to be used, including the scope and content of the prior art, the differences between the prior art and the claims at issue, and the level of ordinary skill in the pertinent art.\textsuperscript{19} Secondary considerations, such as commercial success, long felt but unsolved needs, and failure of others, were also deemed relevant.\textsuperscript{20} After these inquiries were resolved, lower courts used the TSM test to determine obviousness as a matter of law. Under this test, mere evidence that the prior art contained the subject matter seeking to be patented or sought to solve the same problem was insufficient to decide whether an invention was obvious.\textsuperscript{21}

Considering the stool example discussed \textit{supra}, the prior art references would be the two previously issued patents: the stool with a seat and three legs and the table with four legs. Each element of the new invention, a stool with a seat and four legs, is captured in the prior art. Since the TSM test limits an inventor’s obviousness to the language contained in the prior art references, the stool with four legs would only be obvious if the previous three legged stool patent contained language that discussed the possibility of adding a fourth leg. Additionally, if the stool with four legs was designed to solve the same problem that the table solved, it would not be obvious under the TSM test. For example, the patented table might have been built with four legs to be sturdier; the

\textsuperscript{14} Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc., 555 F.3d 984, 988 (Fed. Cir. 2009).
\textsuperscript{15} \textit{KSR}, 550 U.S. at 415.
\textsuperscript{16} \textit{Id.} at 415–20.
\textsuperscript{17} \textit{Graham}, 383 U.S. at 17.
\textsuperscript{18} \textit{Id.} at 4.
\textsuperscript{19} \textit{Id.} at 17.
\textsuperscript{20} \textit{Id.}
\textsuperscript{21} Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc., 555 F.3d 984, 988 (Fed. Cir. 2009).
mere fact that the stool added a fourth leg to be sturdier would not be considered obvious unless there was language in the table patent suggesting that this solution could apply to a stool. Therefore, prior inventions that include every element of the new invention, without more, do not cause the new invention to be obvious under the TSM test.

2. The KSR Standard

In KSR, the Supreme Court determined that the TSM test was too rigid.22 In this case, KSR developed an adjustable gas pedal system in cars that allowed the pedal to be moved forward to accommodate persons with smaller statures.23 Teleflex, however, had already owned a patent for an adjustable pedal assembly.24 It contained a fixed pivot point where the pedal could be adjusted forward. An electronic pedal position sensor was placed at the fixed pivot point to track the pedal position.25 However, there were three prior art references for Teleflex’s patent.26 The first reference taught an adjustable pedal assembly with a fixed pivot point for moving the pedal forward. A second described using an electronic sensor to detect the position of the pedal. A third reference taught to place a position sensor on a fixed pivot.27 After Teleflex brought claims against KSR for patent infringement, KSR argued that Teleflex’s patent was invalid because it would have been obvious based on the prior art references.28

The Federal Circuit court reversed the district court using the TSM test to validate Teleflex’s patent.29 The court found that there was no specific motivation in the prior art to attach an electronic sensor to the fixed pivot point.30 On appeal, however, the Supreme Court reversed the Federal Circuit court holding that the TSM test was too rigid and formalistic.31

The Supreme Court added rationales to be considered when determining obviousness.32 The Court first upheld the factual inquiry

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23. Id. at 407–13.
24. Id.
25. Id.
26. Id.
27. Id.
28. Id.
29. Id. at 415. The district court granted summary judgment to KSR and found Teleflex’s patent invalid for obviousness. Id. at 412.
30. Id. at 422.
31. Id. at 415.
32. Id. at 415–22.
MISAPPLYING KSR

framework provided by *Graham*. After these factual inquiries were resolved, the Court provided several methods of finding subject matter obvious as a matter of law. The Court found the TSM test applicable. However, the Court held that if a subject matter is not found to be obvious after applying the TSM test, additional rationales must be considered. Such rationales included combining prior art elements according to known methods, substituting one known element for another, using a known technique to improve similar art in the same way, applying a known technique to existing art that is ready for improvement, obvious to try among a finite number of identified solutions, and designing incentives or market forces prompting variations.

In applying these additional rationales, the Supreme Court relied heavily upon the intuition and common sense of a person with ordinary skill in the relevant art. The Court determined that the obviousness analysis need not seek out precise teachings of the prior art, but should instead consider inferences and creative steps that a person of ordinary skill in the art would employ. In trying to solve any given problem, the Court determined that a person of ordinary skill has good reason to pursue known options that are in his technical grasp. And, if this leads to success it is likely not because of innovation, but instead ordinary skill and common sense. The Court stated that when work is available in one field, design incentives or market forces can prompt a person of ordinary skill to implement a predictable version of an invention based in a different field or the same one, and that should bar patentability. Further, the Court established that, in many cases, a person of ordinary skill will be able to fit teachings of multiple patents together like pieces of a puzzle. Moreover, the Court also stated that rigid preventative rules that deny recourse to common sense are not consistent with case law.

Applying KSR, it might be obvious under common sense to design a

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33. *Id.* at 413.
34. *Id.* at 415–22.
35. *Id.*
36. *Id.*
37. *Id.*
38. *Id.*
39. *Id.* at 418.
40. *Id.* at 417.
41. *Id.*
42. *Id.*
43. *Id.* at 420.
44. *Id.*
stool with a seat and four legs. Indeed, a stool and table may not be in the same field of invention because a stool is for sitting and a table is for eating. However, it may be within the common sense of a stool designer to look to other inventions with legs. Thus, while the four legged stool would not have been obvious under the TSM test, it may have been obvious according to the *KSR* standards.

**III. Cases Applying the KSR Standard**

The lower courts adopted the obviousness analysis provided in *KSR* to include the intuition and common sense of a person with ordinary skill in the art.45 In *Ball Aerosol & Specialty Container, Inc. v. Limited. Brands, Inc.*, the United States Court of Appeals for the Federal Circuit held that using only the TSM test to find an invention not obvious was inconsistent with *KSR*.46 Because obviousness is a legal question based on underlying factual inquiries, the Federal Circuit provided that the standard of review allowed them to reverse the obviousness determination of the district court in *Andersen Corp. v. Pella Corp.*47 The United States District Court for the District of Columbia, in *Hitachi Koki Co. v. Doll*, resolved the question of obviousness by finding that the common sense of a person with a high technical background would cause him to combine multiple prior references.48

**A. Refining the TSM Test in Ball Aerosol**

In *Ball Aerosol*, two patents had previously been issued for candle holders.49 One patent described a candle holder with four legs that acted as a stand.50 The second patent described a removable cover on a candle holder that could be placed underneath it as a stand.51 Ball Aerosol combined these elements and obtained a patent for a candle holder that had a removable lid with four legs which could be placed under the candle to act as a stand.52 Ball Aerosol sued Limited Brands for patent

46. Id. at 993.
49. Ball Aerosol, 555 F.3d at 988.
50. Id. at 991–92.
51. Id.
52. Id. at 987.
infringement when it sold a similar candle holder. Limited Brands counterclaimed that Ball Aerosol’s patent was obvious and invalid.

The District Court for the Northern District of Illinois validated Ball Aerosol’s patent using the TSM test. The district court noted that all of the elements claimed in Ball Aerosol’s patent were encompassed in the two prior art references. However, because there was not clear and convincing evidence of any motivation to combine the prior art teachings, the district court found that the patent was not obvious. The court stated that the defendant simply supplied prior art containing elements of the claims in the Ball Aerosol patent and, additionally, that the defendant used conclusory statements instead of an explanation of the motivation to combine the sources they had alleged. It found this use of the TSM test to be consistent with KSR because KSR stated that the analysis of a motivation to combine should be made explicit. The district court applied KSR to uphold the TSM test to find the patent nonobvious and granted summary judgment to Ball Aerosol.

The Federal Circuit reversed the district court and found Ball Aerosol’s patent invalid as obvious. First, the court applied the factual inquiries described in Graham. Under the first inquiry, the prior art was the two previously issued patents. Under the second, only minor differences existed between the two prior art references and the subject matter because the prior art described both a removable lid and a stand with four legs. Under the third inquiry, the technology of the candle holder was simple and easy to understand. As such, the level of ordinary skill in the art was that of an ordinary layman with average intelligence. After these factual inquiries were resolved, the question of obviousness was to be determined as a matter of law.

Using KSR, the Federal Circuit found the patent obvious. It found
that the combination of prior art elements was a predictable variation, grounded in common sense. The Federal Circuit determined the lid invention was obvious to try for the common purpose to minimize scorching. According to the court, the lower court erred by finding KSR to require an explicit motivation to combine. The Federal Circuit additionally held that the lower court failed to consider the Supreme Court’s intent to have a flexible test and to include the inferences and creative steps that an inventor would employ. Therefore, the Federal Circuit used the common sense and intuition of a person with ordinary skill to invalidate the patent for obviousness. Summary judgment was accordingly granted to Limited Brands.

**B. The Level of Review in Andersen**

Andersen obtained a patent for a reduced visibility insect screen. The screen used a number of wires that were thinner and woven tightly together so that the window screen was more transparent. After Pella sold a similar reduced visibility insect screen, Andersen sued Pella for infringement. Pella counterclaimed that Andersen’s patent was invalid for obviousness. Pella asserted that the patent was obvious because of a mesh manufactured by TWP and a Japanese patent disclosing a method of coating a screen with light absorbing black color to reduce reflection.

The District Court for Minnesota first applied the Graham factual inquiries. It found that the defendants made out a prima facie showing of obviousness under these factors. The court asked, “[W]ould an insect screen manufacturer of ordinary skill have found it obvious to use the TWP screening material, decrease its reflectance value, bond it, and

68. Id.
69. Id.
70. Id.
71. Id.
72. Id.
73. Id. at 994.
75. Id.
76. Id.
77. Id. at 895.
78. Id.
79. Id.
80. Id.
place it in a window frame?” and answered in the affirmative.\textsuperscript{81} The district court found that the heart of the claimed invention was the TWP mesh, which had been available on the internet and was in prior use.\textsuperscript{82} Concluding that the use of mesh was a simple act of common sense rather than invention,\textsuperscript{83} the court granted summary judgment for the defendants and found Andersen’s patent obvious and invalid.\textsuperscript{84}

The Federal Circuit reviewed the district court’s grant of summary judgment \textit{de novo}, drawing all reasonable inferences in favor of the non-moving party.\textsuperscript{85} \textit{De novo} review allows the court to draw its own legal inferences and conclusions while giving more deferential treatment to factual findings made in the court below.\textsuperscript{86} The court found that Andersen failed to raise a genuine issue of material fact as to two \textit{Graham} factors—the differences between the prior art and the claimed invention and the level of skill in the art.\textsuperscript{87} However, the court found a genuine issue as to whether a person with ordinary skill in the art, someone who manufactures insect screens with no understanding of optics and physics, seeking to design an insect screen with reduced visibility would have looked to TWP mesh.\textsuperscript{88} The Federal Circuit agreed that both common sense and the nature of the problem to be solved could lead an insect designer to use a mesh material that was primarily used for a purpose other than insect screens.\textsuperscript{89} It found a genuine issue of material fact because the TWP website did not include TWP material on the insect screen webpage but on a separate High Transparency webpage.\textsuperscript{90} It also found that TWP, a company that manufactured insect screens, did not employ this particular mesh in any insect screen.\textsuperscript{91} The Federal Circuit determined that common sense might not have made it obvious to an insect screen designer to try using the mesh as an insect screen. Because of this genuine issue of material fact as to obviousness, the Federal Circuit vacated the summary judgment in favor of Pella.\textsuperscript{92}

\begin{itemize}
\item \textsuperscript{81} Id. at 895–96.
\item \textsuperscript{82} Id. at 896.
\item \textsuperscript{83} Id.
\item \textsuperscript{84} Id. at 895.
\item \textsuperscript{85} Id. at 896. Summary judgment is appropriate where there is no genuine issue of material fact and the movant is entitled to judgment as a matter of law. Id.
\item \textsuperscript{86} Hitachi Koki Co. v. Doll, 620 F. Supp. 2d 4, 15–16 (D.D.C. 2009).
\item \textsuperscript{87} Andersen, 300 Fed. App’x at 897.
\item \textsuperscript{88} Id.
\item \textsuperscript{89} Id.
\item \textsuperscript{90} Id.
\item \textsuperscript{91} Id. at 898.
\item \textsuperscript{92} Id. at 901.
\end{itemize}
C. Added Complexities in Hitachi

Hitachi submitted a patent application for a desk-top saw. The saw was capable of being tilted to the left or right to cut at various angles. It also allowed a work piece to be turned in different positions on the saw base. Hitachi’s patent was rejected by the United States Patent and Trademark Office (USPTO) for being obvious based on five prior art references. The first reference was recognized by Hitachi in its patent application as Applicant’s Admitted Prior Art (AAPA). It was a desktop saw that could only be tilted in one direction. The second reference was a patent issued to Ito that described a desktop saw that could be tilted in both directions, but was connected differently to the motor. A patent issued to Johnson was a third reference that was not a desktop saw, but claimed a multiple angle cutting apparatus that was able to turn the work piece in different positions. Langworthy owned a patent describing a motorized surgical saw. Finally, the fifth prior art reference was a patent issued to Ambrosio that contained a motorized blade mounted underneath the cutting surface. Using KSR, the USPTO determined that one with ordinary skill in the art would have been capable of combining the prior art references to create the invention described by Hitachi.

The district court heard expert testimony during the bench trial when Hitachi brought suit requesting the court to reverse the USPTO’s decision. The first expert was Gary Katz, an expert in the field of finish carpentry, who testified that Hitachi’s design met a long-felt need among carpenters because it enabled them to tilt the saw to make cuts in both directions without having to manipulate the work piece. The second witness, Paul Hatch, was an expert in the field of power tool design. He testified about the prior state of the art of desktop saws, the features of the Hitachi design, and the teachings of the prior art, and he

94. Id.
95. Id. at 8–9.
96. Id. at 9–12.
97. Id. at 9–10.
98. Id.
99. Id. at 10.
100. Id. at 11.
101. Id.
102. Id. at 12.
103. Id. at 13–15.
104. Id. at 15.
105. Id.
concluded that no person with ordinary skill in the art would have a reason to combine those teachings.\textsuperscript{106} The defendant’s witness, Michael Gililland, was also an expert in power tool design.\textsuperscript{107} He rebutted Hitachi’s expert testimony by explaining that a person with ordinary skill in the art would have sufficient reason to combine the teachings of the prior art references.\textsuperscript{108}

Reviewing the USPTO’s decision \textit{de novo}, the district court followed \textit{Graham’s} factual inquiry framework.\textsuperscript{109} The court first determined that a person with ordinary skill in the art was either a mechanical engineer with at least five years of experience designing power tools, or someone with technical training and ten years of experience designing power tools.\textsuperscript{110} Second, the scope of the prior art was defined as references that encompass elements analogous to the claimed inventions.\textsuperscript{111} The court established that the five prior art references discussed \textit{supra} were sufficiently analogous to the claims to constitute prior art because the content of the prior art was relevant specifically in what it fairly suggests to one of ordinary skill in the art.\textsuperscript{112} The court found disputes among the expert testimony as to whether the prior art described a base that allowed the work piece to be turned in either different positions or specific cutting angles while the saw assembly is tilted.\textsuperscript{113} The court relied on the defendant’s expert’s testimony to find that the prior art references taught all of the elements in Hitachi’s claim.\textsuperscript{114} Under the third inquiry, the court established the differences between the prior art and the claims at issue.\textsuperscript{115} It stated that although no reference, alone, taught the ability to make cuts by tilting the saw in both directions, it is not necessary for any single reference to anticipate every element.\textsuperscript{116} The court established that the prior art collectively taught every element of Hitachi’s claim, and therefore, there was little or no difference between the prior art and the claims at issue.\textsuperscript{117}

The court next sought to determine, as a matter of law, whether it would be obvious to a person of ordinary skill in the art to combine

\begin{itemize}
  \item \textsuperscript{106} \textit{Id.}  \\
  \item \textsuperscript{107} \textit{Id.}  \\
  \item \textsuperscript{108} \textit{Id.}  \\
  \item \textsuperscript{109} \textit{Id.} at 16–17.  \\
  \item \textsuperscript{110} \textit{Id.} at 18.  \\
  \item \textsuperscript{111} \textit{Id.} at 18–20.  \\
  \item \textsuperscript{112} \textit{Id.} at 21–27.  \\
  \item \textsuperscript{113} \textit{Id.}  \\
  \item \textsuperscript{114} \textit{Id.}  \\
  \item \textsuperscript{115} \textit{Id.} at 27.  \\
  \item \textsuperscript{116} \textit{Id.}  \\
  \item \textsuperscript{117} \textit{Id.}
\end{itemize}
these references based upon the underlying factual inquiries. 118 The court used \textit{KSR} to provide that it need not seek out precise teachings directed to the specific subject matter of the challenged claim, but its analysis can consider the inferences and creative steps, or even routine steps, that an inventor would employ. 119 Applying these principles, the court found that at the time the saw was invented, there was a recognized design need given the limitations of the AAPA and Ito inventions because neither reference could tilt forty-five degrees to cut in either direction. 120 It found that there were a finite number of predictable solutions and that the saw assembly designs of Johnson, Ambrosio, and Langworthy were known options within the ordinarily skilled person’s technical grasp. 121 The court found that the evidence, including prior art, indicated that the plaintiff’s design evolved through exercise of ordinary skill in the natural and expected development of the art, and while it may have solved a problem, it did so in an obvious way. 122 Accordingly, the court concluded that Hitachi’s claim was obvious and unpatentable. 123

\section*{IV. DISCUSSION}

The Supreme Court’s decision in \textit{KSR} affected lower courts’ analyses for determining whether an invention is obvious. Applying these effects to the obviousness analysis has caused problems for the lower courts. The problems arising from the altered obviousness analysis can be distinguished from the claim construction area of patent law, where a similar analysis was not considered to contain problems. A solution is possible to improve the obviousness analysis used by the courts.

\textit{A. The Effects of KSR in the Lower Courts’ Obviousness Analysis}

The lower courts have concluded that the \textit{KSR} decision broadened the analysis for finding obviousness. However, the courts have continued to use the same legal standard of review when the decision for obviousness is appealed.

\begin{footnotesize}

118. \textit{Id.} at 28.
119. \textit{Id.}
120. \textit{Id.}
121. \textit{Id.}
122. \textit{Id.}
123. \textit{Id.} at 28–29.

\end{footnotesize}
1. The Shift to a Broader Obviousness Analysis

Although the lower courts were initially uncertain whether *KSR* affected their analysis of obviousness, courts have properly adopted using common sense and the intuition of a person with ordinary skill in the art in their analysis. Because the district court in *Ball Aerosol* found that its analysis could remain unchanged by *KSR*, the court continued to rely on an unaltered TSM test that limited it to language in the prior art. The Federal Circuit, however, found this analysis to be the same rigid application that the Supreme Court had previously rejected. The TSM test is now a starting point, and courts have properly applied *KSR* to include more rationales that consider the circumstances in each case. This requires the court to go beyond the language of the prior art references. As illustrated in *Ball Aerosol*, this enlarged standard has found patents that were valid under the TSM test to be invalid. Because patents are drafted to ultimately enable a person with ordinary skill in the art to use the invention, the obviousness analysis has been improved to include this person’s viewpoint in determining whether a patentee has sufficiently contributed to the progress of the field. Lower courts have appropriately adopted the broadened obviousness analysis.

2. The Courts Did Not Change the Legal Standard of Review

Although the procedure to analyze obviousness expanded to include common sense, lower courts did not change the legal standard of *de novo* review in the wake of *KSR*. The legal standard of review for obviousness is a question of law consisting of underlying factual inquiries. Obviousness is reviewed *de novo* at each level of appeal. In *Andersen*, the analysis began with the *Graham* factual inquiries, which are given more deferential treatment on review. Therefore, the Federal Circuit did not alter the district court’s determinations.

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125. *Id.* at 993.
126. *Id.*
127. *Id.*
128. *Id.*
concerning the factual inquiries. However, reviewing courts are free to set aside the legal decisions of obviousness made below. The Federal Circuit used the district court’s factual answers to make different inferences and legal conclusions that the invention was not obvious. It easily reversed the legal conclusion that a person using common sense would not use mesh. Because obviousness determinations are questions of law, the court had the relatively unimpeded authority to reverse. This demonstrates the level of de novo review that the reviewing court continues to exercise after the adoption of a broader analysis.

B. Problems Created in the Lower Courts from Applying KSR

Unlike the TSM test, the broader obviousness analysis that includes the intuition and common sense of a person with ordinary skill in the art is difficult to apply without changing the standard of review. Also, a judge deciding obviousness as a matter of law probably does not possess the background knowledge of common sense of a person with ordinary skill in the art in each circumstance.

1. Difficulty in Applying the Adopted KSR Standard

The previous method to determine an invention’s obviousness, the TSM test, was well-defined and objective. Lower courts only had to interpret the prior references to detect any teaching, suggestion, or motivation to combine or change the invention. Such teaching in the prior art would then render obvious an invention that made that combination or change. As the district court illustrated in Ball Aerosol, it found every element of the claimed candle holder in the prior art. However, these documents contained no teaching, suggestion, or motivation to combine the lid with the legs. Therefore, Ball Aerosol’s patent of a candle holder with a lid and legs was not considered to be obvious under the TSM method. This approach is

134. Id. at 897. The Federal Circuit used the answers to the factual inquiries from the district court to make different inferences and found a material issue of fact.
136. Andersen, 300 Fed. App’x at 897.
137. Id. at 900.
139. Id.
140. Id.
141. Id.
142. Id.
well defined to only the language in the prior references. It is also an objective test because it limits using human intuition to interpret the prior references.\(^\text{143}\)

Lower courts do not have the benefit of a well-defined test under the altered obviousness analysis. The inclusion of additional rationales left courts with the difficult task of determining how to define and apply common sense. The Supreme Court in \textit{KSR} provided no guidance on how to apply this standard.\(^\text{144}\) This lack of guidance resulted in arbitrary application and inconsistent conclusions. In \textit{Andersen}, the decision hinged on whether common sense would cause a person with ordinary skill in designing insect screens to use a TWP mesh material.\(^\text{145}\) The district court answered this question affirmatively because the material had been available on the internet.\(^\text{146}\) The Federal Circuit, however, reversed this determination because the internet site neither categorized the material under its insect screen information nor used the material in its own insect screens.\(^\text{147}\) Both courts used the concept of common sense. This, however, illustrates that finding the level of common sense in the field has not been well-defined and has caused inconsistent results.

The addition of common sense and intuition of a skilled person in the art into the obviousness analysis also caused it to be more subjective.\(^\text{148}\) Instead of merely relying on documents, lower courts must attempt now to analyze the reasoning of a hypothetical person in the specific art. This requires taking the facts and circumstances of each case into account. As illustrated in \textit{Andersen}, courts were examining the mindset of an insect screen designer.\(^\text{149}\) The consideration of human reasoning also leads to inconsistent results because it is difficult to read the mind of a person with ordinary skill in the art and make conclusions based on such a reading.\(^\text{150}\) Lower courts have used the \textit{KSR} standard to account for human decisions that cause the obviousness analysis to be more subjective and inconsistent.

\begin{thebibliography}{10}
\bibitem{143} Id.
\bibitem{144} \textit{See generally KSR Int’l Co. v. Teleflex Inc.}, 550 U.S. 398 (2007).
\bibitem{145} \textit{Andersen Corp. v. Pella Corp.}, 300 Fed. App’x 893, 896 (Fed. Cir. 2008), \textit{cert. denied}, 129 S. Ct. 2739 (2009).
\bibitem{146} Id.
\bibitem{147} Id. at 898.
\bibitem{148} Id.
\bibitem{149} Id. at 896.
\bibitem{150} Id. at 900.
\end{thebibliography}
2. A Judge May Not Possess the Ordinary Technical Background

Because the Supreme Court changed the obviousness analysis without changing the legal standard of review, lower court judges are confronted with establishing and applying the level of common sense of a person with ordinary skill in the art as a matter of law.\footnote{151} Under the TSM test, lower court judges only had to interpret the documents to find an explicit teaching, suggestion, or motivation.\footnote{152} KSR, however, forced judges to put themselves in the shoes of a person with ordinary skill in the art to decide if a combination or change in inventions was an obvious step because of common sense.\footnote{153}

An obviousness determination is based on the level of ordinary skill in the pertinent art, which may be very technical and outside a judge’s knowledge. In \textit{Hitachi}, such an ordinary level of skill was either a degree in mechanical engineering plus five years of experience designing power tools or someone with technical training plus ten years of experience designing power tools.\footnote{154} It is unlikely that a judge possesses this level of experience. Determining obviousness becomes a complex task because it is difficult to ascertain why a person made an inventive decision without this type of technical training or understanding.\footnote{155} Lower court judges are challenged by having to detect and apply the level of common sense a person of ordinary skill in the art would possess without having the required background knowledge.

Some cases are also complicated by deciding whether the combination of multiple patents would be obvious based on the common sense of a person with ordinary skill in the art.\footnote{156} KSR stated that it may be common sense to fit multiple references together like pieces of a puzzle.\footnote{157} The opinion also included the combination of prior art references of different fields.\footnote{158} In \textit{Hitachi}, the district court combined five prior art references to find that the desktop saw was obvious as common sense.\footnote{159} These included references ranging from similar desktop saws to handheld and medical devices.\footnote{160} The judge decided as

\begin{itemize}
\item \textit{Hitachi}, 620 F. Supp. 2d at 28–29.
\end{itemize}
a matter of law that it would be obvious to an experienced power tool designer to combine all of these references.161 Lower courts have applied KSR to allow judges, who do not have a technical background, to decide that combining many prior references in various fields will render an invention obvious.

C. Distinguishing the Obvious Analysis from Claim Construction

Claim construction is an area of patent law that construes the description of an invention and the specification of claims, the portion of the patent document that defines the scope of the patentee’s rights.162 The Supreme Court determined that interpreting documents in claim construction is a matter entirely for the court, which was consistent with the Seventh Amendment right to a jury trial.163 The Federal Circuit further held that judges should rely more on intrinsic rather than extrinsic evidence when interpreting claims.164 The Supreme Court also provided judges with the authority to resolve expert testimony.165 The Federal Circuit found that this decision placed claim construction under its authority because it could freely reverse the decision of law on appeal.166 This provided uniformity in claim construction decisions.167 The determination of obviousness, however, differs from claim construction, and judges who follow these rules in their obviousness analysis abuse their discretion.

1. The Judges’ Role in Interpreting Documents

Claim construction provided judges with the authority to interpret patent documents entirely as a matter of law.168 The Seventh Amendment provides that for suits at common law, the right of trial by jury shall be preserved.169 The Supreme Court found that at the time the Seventh Amendment was adopted, judges ordinarily construed written documents, and a jury was left with the task of finding facts.170 Therefore, judges had the responsibility of construing patent documents

161. Id. at 28–29.
163. Id.
165. Markman, 517 U.S. at 389–90.
167. Markman, 517 U.S. at 391.
168. Id.
169. Id. at 376.
170. Id. at 383.
to define terms in the written claims.

The obviousness analysis under the TSM test was consistent with the theory of claim construction that interpreting documents should be accomplished as a matter of law. The TSM test only required the interpretation of prior references to find a teaching, suggestion, or motivation to combine or alter elements of an invention. 171 This test was similar to claim construction because claim construction also only interpreted the patent document to determine the meanings of the terms used. Thus, the TSM test did not infringe on the preservation of a right to a trial by jury.

After KSR, lower courts determine whether an invention is obvious, judges are overstepping their authority of interpreting documents as a matter of law provided in claim construction. Instead of merely interpreting documents to find an invention obvious, lower courts concluded that KSR broadened the legal obviousness standard. 172 In Andersen, judges focused on whether a skilled person would have decided under common sense to use a mesh material for insect screens. 173 Andersen thus analyzes reasoning, which goes beyond interpreting documents. Because the determination of obviousness requires more than interpreting documents, judges have overstepped their authority provided in the area of claim construction to conclude an invention is obvious as a matter of law.

2. Intrinsic Versus Extrinsic Evidence

The Federal Circuit determined that claim construction should rely mainly on intrinsic evidence to interpret the meanings of terms. 174 It found that a judge should interpret terms in the claims of a patent document by observing how the terms are used intrinsically in the rest of the patent document rather than relying on dictionary meanings or other experts in the field. 175 Such extrinsic sources are too generic by reflecting an interpretation of a term under a common usage. They do not properly reflect the intention of the patent drafter to use terms in a certain way in order to limit the scope of his invention. 176 The court

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172. Id. at 993.
175. Id.
176. Id.
MISAPPLYING KSR

held that interpreting claim terms based upon how they are used in the patent document is more helpful in determining how the drafter intended to define the invention. Therefore, intrinsic evidence is used more in the area of claim construction.

Unlike claim construction, however, the determination of obviousness will require more use of extrinsic evidence. The broader obviousness analysis requires judges to go beyond the patent document to discover the level of common sense in the field from the viewpoint of a person with ordinary skills. This requires examining knowledge in an entire field, not just within the patent document itself. Also, because judges do not possess the specific technical background, they will be forced to look beyond the patent document to learn about the technologies. The best method to accomplish this is to use expert testimony. As illustrated in Hitachi, the judge relied heavily on expert testimony to determine that a desktop saw invention would have been obvious as according to the common sense of a person with ordinary skill. Hitachi thus demonstrates the frequent need for using expert witnesses as extrinsic evidence to provide information about common training and knowledge within the pertinent field, which a judge does not possess. Therefore, when determining obviousness, judges will use more extrinsic evidence than in claim construction.

3. Resolving Expert Testimony by the District Courts

Claim construction was deemed to be a purely legal question, which caused the Supreme Court to provide the authority for judges to resolve both legal and factual issues. The Court found that when an issue falls somewhere between a pristine legal standard and a simple historical fact, one judicial actor is better positioned to decide the issue in question. The Court held that judges, not juries, are better suited to find the acquired meaning of patent terms, thus giving judges the authority to make factual determinations when interpreting patent documents. These factual determinations included allowing the judge to resolve expert testimony. Although making credibility determinations is the jury’s forte, the Supreme Court found that this

177. Id.
178. Andersen, 300 Fed. App’x at 896.
181. Id.
182. Id.
183. Id. at 389–90.
would rarely occur in claim construction because the testimony would be used in an educational context. The Court, consequently, provided the authority for judges to resolve expert testimony in the area of claim construction.

Because the question of obviousness relies on underlying factual inquiries, judges should not be able to make any factual inquiries. As demonstrated in Andersen, the Graham factors began the obviousness analysis. When these facts are contested by the parties, a jury is already involved in the process of deciding obviousness. Because two judicial actors are involved, juries should retain their fact-finding role under the Seventh Amendment of finding facts. Therefore, judges determining obviousness should not be making any factual inquiries.

The regular use of expert testimony by both parties in a suit, unlike in claim construction, requires judges to frequently make factual determinations about credibility that infringe on jury rights provided by the Seventh Amendment. Plaintiffs and defendants will probably present expert testimony representing their respective viewpoints about common sense in the field. This testimony will probably be skewed to the side that they represent and will, therefore, conflict. In Hitachi, the plaintiff and defendant both presented expert testimony with respect to obviousness. While the plaintiff provided two witnesses to prove that the desktop saw was not obvious. The defendant presented conflicting testimony that the desktop saw was obvious. Because obviousness is a question of law, the judge resolved the testimony. This shows that the expert testimony was presented not only to educate a judge on how a term was used but also to persuade the judge about each party’s respective viewpoint of common sense in the field. However, the Seventh Amendment provides that a jury has the traditional role of resolving expert testimony because it has the ability to evaluate demeanor and sense the mainsprings of human conduct. Judges resolving expert testimony that is offered to advocate for a party infringes the Seventh Amendment and oversteps the authority provided in claim construction.

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184. Id.
186. Id. at 900. The Federal Circuit reversed the summary judgment granted by the district court because it found a material issue of fact that a jury should determine. Id.
188. Id.
189. Markman, 517 U.S. at 389–90.
4. Resolving Expert Testimony by the Federal Circuit

Because interpreting patent claims was a purely legal issue, the Federal Circuit concluded that such interpretations are subject to *de novo* review on appeal.190 The court did not detect any intent in the Supreme Court’s opinion that claim construction involved any underlying questions of fact but instead that it was purely a legal issue.191 This *de novo* review included any allegedly fact-based questions relating to claim construction, including determinations about expert testimony.192 This is appropriate because the reviewing court is able to review the document being interpreted. Under *de novo* review, the Federal Circuit is permitted to set aside the entire decision of the lower court in the area of claim construction, including determinations about expert testimony.193

The determination of whether an invention is obvious is also a legal question that is subject to *de novo* review, but the reviewing court would violate the authority allowed in claim construction if it made its own determinations about expert testimony. The broader obviousness analysis includes factual inquiries that are given more deferential treatment under *de novo* review.194 This leaves the determination of obviousness as both a trial court and appellate court decision on appeal. If the Federal Circuit were allowed to set aside a lower court’s factual determinations about expert testimony, then the appropriate deferential treatment would not be afforded. By including the resolution of expert testimony as a small factual determination allowed by the judge as in claim construction, the obviousness determination would not only infringe on jury rights but also on the required deferential treatment of the lower court’s findings.

Another reason the Federal Circuit should not be making determinations about expert testimony relates to the fact that it is removed from observing the testimony. The broader obviousness analysis heavily relies upon expert testimony to determine the ordinary level of common sense in the field, which causes the determination to extend beyond patent documents.195 Instead of relying on the documents themselves, Federal Circuit judges would be making credibility determinations even though they did not witness the

190. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454 (Fed. Cir. 1998).
191. *Id.* at 1455–56.
192. *Id.*
193. *Id.*
195. *Id.* at 15.
testimony first hand. The ability to observe expert testimony is a substantial element in determining credibility because one can observe human behavior and make certain inferences. Because the Federal Circuit is removed from witnessing expert testimony, it should not be permitted to make its own credibility determinations as a matter of law.

5. Uniformity

Because of the inclusion of the underlying circumstances in each case, the obviousness analysis cannot be as uniform as the purely legal matter of claim construction. Judges are permitted to make factual findings in claim construction to provide uniformity across jurisdictions. This is because judges are bound by stare decisis. However, obviousness relies on the facts and circumstances of each invention and the knowledge within any given field. Even if the legal standard is uniform, the application of common sense and intuition of a person with ordinary skill itself leads to inconsistent results. As in Andersen, judges were deciding the ability of common sense of a person with ordinary skill. Even within the same case, the judges came to different results. The reliance on expert testimony also makes it less uniform. It is uncertain which side is more credible. Thus, uniformity is less likely in the area of obviousness than in the area of claim construction, so judges should be precluded from making factual findings.

V. A Solution

Obviousness should remain a legal question with underlying factual inquiries. However, to improve the obviousness analysis, the determination of the level of common sense of a person with ordinary skill in the art should be added to the underlying factual inquiries. Because factual inquiries already exist, such an addition will not be a burdensome transition. This shift will solve some of the problems discussed supra and will change the outcome of some cases.

199. Id.
200. Id. at 900. The district court thought it was common sense to use TWP mesh, while the appellate court thought that it was not. Id.
A. Solve Problems

The inquiry into the common sense of a person with ordinary skills is subjective, but shifting it to a factual inquiry will better define the obviousness analysis. As a factual inquiry, judges will be provided with a process to determine the level of common sense in the relevant fields and not have to define it themselves. They can defer to the experts of the fields to provide information and allow juries to make the determination as to which expert is more reliable. Judges are provided with a more defined approach to determining the ordinary common sense in the field by shifting this to a factual inquiry.

The shift of determining the ordinary level of common sense in the field to a factual inquiry also prevents judges from making this determination without the necessary technological background and from making their own factual finding to resolve expert testimony. Judges do not have the technical knowledge in the field, so expert testimony is mainly needed to determine the level of common sense a person with ordinary skill possesses. By shifting this determination to a factual inquiry, judges can defer to experts, which make their lack of technological knowledge irrelevant. Moreover, by allowing juries to make the credibility decisions, judges would not be resolving expert testimony and infringing on the Seventh Amendment. Therefore, shifting the determination of common sense in the field to a factual inquiry prevents judges from making decisions without the technological background and from resolving expert testimony.

Shifting the inquiry to a factual one also allows the Federal Circuit to give it the appropriate weight on review and prevent removed credibility determinations. Under de novo review, factual determinations are given more deferential treatment. Thus, the Federal Circuit will be required to give more weight to the trial court’s finding of common sense in the field. Such deferential treatment will prevent the court from setting aside credibility determinations and making their own removed findings. Consequently, shifting the common sense determination to the factual inquiries will also prevent the Federal Circuit from making removed credibility determinations.

Additionally, the decisions will remain as uniform as possible because obviousness will remain a legal question. The uncertainty of establishing the level of common sense will be removed from the legal question. Judges are bound by stare decisis, so the remaining analysis will be uniform. The final obviousness determination may remain a matter of law to provide as much uniformity as possible in the subjective analysis.
B. Effects on Overall Decision

The overall outcome of the obviousness analysis will change from shifting the common sense determination to a jury because conflicting expert testimony would cause a material issue of fact and prevent summary judgment. Because the level of common sense was a question of law under obviousness, lower courts were able to determine the obviousness question during summary judgment. The district judge in Hitachi resolved the expert testimony and found no issues of material fact, thereby allowing him to grant summary judgment to Doll.201 However, as a factual inquiry, the conflicting expert testimony about whether it would be common sense to combine the prior art references would be a material issue of fact. This would prevent the district court from granting summary judgment. A jury might have chosen Hitachi’s witnesses to be more credible. By adding common sense to the factual inquiries, the determination would prevent summary judgment and possibly change the outcome of the case by allowing a jury to choose a different expert witness to be more credible.

Also, the determination of common sense would not be easily reversed on appeal because it would be given more deferential treatment. As shown in Andersen, the Federal Circuit easily reversed the districts court’s determination that common sense would cause an insect screen designer to use TWP mesh.202 On the other hand, if it were a factual inquiry, more weight would have to be afforded to the lower court’s findings. The Federal Circuit could not have so easily overturned the common sense determination. This may cause appellate courts to more readily affirm the decisions of their district courts. Therefore, decisions of obviousness would be affected by shifting the level of common sense decision to the jury on appeal.

VI. CONCLUSION

Lower courts have applied the KSR decision to broaden the determination of obviousness without changing the legal standard of review. The inclusion of common sense in the field made the obviousness analysis difficult to apply and more subjective. It also created another problem for judges in making the obviousness determination in that they do not possess the required technical background in each pertinent art. Therefore, the broader obviousness analysis forced judges to go beyond interpreting documents and, instead,
to heavily rely on expert testimony. This required judges to resolve conflicts, which infringed on the Seventh Amendment right to a jury trial. Therefore, the determination of the level of common sense of a person with ordinary skill in the art should be shifted to the underlying factual inquiries in the obviousness analysis.