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The Obviousness Standard in Patent Law: *KSR International Co. v. Teleflex Inc.*

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Summary

The Patent Act provides protection for processes, machines, manufactures, and compositions of matter that are useful, novel, and nonobvious. Of these three statutory requirements, the nonobviousness of an invention is often the most difficult to establish. To help courts and patent examiners make the determination, the U.S. Court of Appeals for the Federal Circuit developed a test called "teaching, suggestion, or motivation" (TSM). This test provided that a patent claim is only proved obvious if the prior art, the nature of the problem to be solved, or the knowledge of those skilled in the art, reveals some motivation or suggestion to combine the prior art teachings. In *KSR International Co. v. Teleflex Inc.* (550 U.S. ___ , No. 04-1350, decided April 30, 2007), the U.S. Supreme Court held that the TSM test, if it is applied by district courts and patent examiners as the *sole* means to determine the obviousness of an invention, is contrary to Section 103 of the Patent Act and to Supreme Court precedents that call for an expansive and flexible inquiry, including *Graham v. John Deere Co. of Kansas City,* 383 U.S. 1 (1966).

Background

Section 103(a) of the Patent Act provides one of the statutory bars for patentability of inventions: a patent claim[1] will be considered invalid if "the differences between the subject matter sought to be patented and the prior art[2] are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having

[1] Each application for a patent consists of two primary parts: (1) a "specification," which is a written description of the invention enabling those skilled in the art to practice the invention, and (2) one or more claims that define the scope of the subject matter which the applicant regards as his invention. 35 U.S.C. § 112. Therefore, these claims define the scope of the patentee's rights under the patent. 3-8 DONALD S. CHISUM, CHISUM ON PATENTS § 8.01 (2006).

[2] "Prior art" is a term that refers to the materials (usually called "references" in patent law) that comprise the available knowledge regarding the subject matter of the invention sought to be patented, such as other issued patents, publications, and evidence of actual uses or sales of the technology. ROGER SCHECHTER & JOHN THOMAS, PRINCIPLES OF PATENT LAW 4-1 (2d ed. 2004).

ordinary skill in the art to which said subject matter pertains."[3] In other words, for the subject matter of an alleged invention or discovery to be patentable, it must be "nonobvious" at the time of its creation. The nonobviousness requirement is met if the subject matter claimed in a patent application is beyond the ordinary abilities of a person of ordinary skill in the art in the appropriate field.[4]

In the landmark 1966 case *Graham v. John Deere Co. of Kansas City,* the Supreme Court established an analytic framework for courts to determine "nonobviousness." The so-called *Graham* test describes several factors that must be assessed:

> While the ultimate question of patent validity is one of law ... the § 103 condition, which is but one of three conditions, each of which must be satisfied, lends itself to several basic factual inquiries. 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 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. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.[5]

While a single prior art reference could form the basis of a finding of nonobviousness, multiple prior art references are often involved in the analysis. In such a situation, the U.S. Court of Appeals for the Federal Circuit (Federal Circuit) had developed an approach in which an invention would be considered obvious only if there was an explicit or implicit "teaching, suggestion, or motivation" that would lead a person of ordinary skill to combine multiple prior art references to produce an invention.[6] Such a "teaching, suggestion, or motivation" (TSM) could have come from either (1) the references themselves, (2) knowledge of those skilled in the art, or (3) the nature of a problem to be solved, leading inventors to look to references relating to possible solutions to that problem.[7] Because § 103 of the Patent Act requires that an invention's obviousness be determined from the standpoint of a person having ordinary skill in the art "at the time the invention was made," the TSM test was designed, in part, to defend against "the subtle but powerful attraction of a hindsight-based obviousness analysis."[8]

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[3] 35 U.S.C. § 103(a).

[4] The U.S. Court of Appeals for the Federal Circuit has previously set forth a list of factors that are relevant to the inquiry into the level of ordinary skill in the art: "(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." Environmental Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 698 (Fed. Cir. 1983).

[5] 383 U.S. 1, 17-18 (1966).

[6] Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F .3d 1568, 1572-73 (Fed. Cir. 1996); Tec Air, Inc. v. Denso Mfg. Mich. Inc., 192 F.3d 1353, 1359-60 (Fed. Cir. 1999).

[7] *Pro-Mold,* 75 F.3d at 1573.

[8] *In re* Dembiczak, 175 F.3d 994, 999 (Fed. Cir. 1999).

KSR International v. Teleflex

The patents at issue in *KSR International v. Teleflex* pertain to an adjustable pedal system (APS) for use with automobiles having electronic throttle-controlled engines. Teleflex Inc. holds an exclusive license for the patent on this device that allows a driver to adjust the location of a car's gas and break pedal so that it may reach the driver's foot. KSR International Co. also manufactures an adjustable pedal assembly. Initially, KSR supplied APS for cars with engines that use cable-actuated throttle controls; thus, the APS that KSR manufactured included cable-attachment arms.[9] In mid-2000, KSR designed its APS to incorporate an electronic pedal position sensor in order for it to work with electronically controlled engines, which are being increasingly used in automobiles. In 2002, Teleflex filed a patent infringement lawsuit against KSR after KSR had refused to enter into a royalty arrangement, asserting that this new design came within the scope of its patent claims. In defense, KSR argued that Teleflex's patents were invalid because they were obvious under § 103(a) of the Patent Act — that someone with ordinary skill in the art of designing pedal systems would have found it obvious to combine an adjustable pedal system with an electronic pedal position sensor for it to work with electronically controlled engines.[10]

The District Court's Opinion. The U.S. District Court for the Eastern District of Michigan agreed with KSR that the patent was invalid for obviousness, granting summary judgment in favor of KSR.[11] The court determined that there was "little difference between the teachings of the prior art and claims of the patent-in-suit."[12] Furthermore, the court opined that "it was inevitable" that APS would be combined with an electronic device to work with electronically controlled engines.[13]

The Federal Circuit's Opinion. Teleflex appealed the decision to the Federal Circuit. The appellate court vacated the district court's ruling, after finding that the district court had made errors in its obviousness determination. Specifically, the Federal Circuit noted that the district court had improperly applied the TSM test by not adhering to it more strictly — the district court had reached its obviousness ruling "without making findings as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of [the] invention to make the combination in the manner claimed."[14] The Federal Circuit explained that district courts are "required" to make such specific findings pursuant to Federal Circuit case law establishing the TSM standard.[15] In regard to the patent in the case, the appellate court found that the prior art in adjustable pedal design had been focused on solving the "constant ratio problem" (described as when "the force required to depress the pedal

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[9] Teleflex Inc. v. KSR Int'l Co., 298 F. Supp. 2d 581, 584 (E.D. Mich. 2003).

[10] *Id.* at 585.

[11] *Id.* at 596.

[12] *Id.* at 592.

[13] *Id.* at 593.

[14] Teleflex, Inc. v. KSR Int'l Co., 119 Fed. Appx. 282, 288 (Fed. Cir. 2005) (internal quotations and citation omitted).

[15] *Id.*

remains constant irrespective of the position of the pedal on the assembly"); whereas the motivation behind the patented invention licensed to Teleflex was "to design a smaller, less complex, and less expensive electronic pedal assembly."[16] In the Federal Circuit's view, unless the "prior art references address the precise problem that the patentee was trying to solve," the problem would not motivate a person of ordinary skill in the art to combine the prior art teachings — here, the placement of an electronic sensor on an adjustable pedal.[17]

The Supreme Court's Opinion. The Supreme Court granted certiorari on June 26, 2006, to review the *KSR* case, in which the central question before the Court was whether the Federal Circuit had erred in crafting TSM as the sole test for obviousness under § 103(a) of the Patent Act.[18] On April 30, 2007, the Court unanimously reversed the Federal Circuit's judgment, holding that the TSM test for obviousness was incompatible with § 103 and Supreme Court precedents.[19] Associate Justice Anthony Kennedy, delivering the opinion of the Court, explained that the proper framework for a court or patent examiner to employ when determining an invention's obviousness is that set forth in the Court's 1966 opinion *Graham v. John Deere Co. of Kansas City.* That analytical framework provides "an expansive and flexible approach" to the question of obviousness that the "rigid" and "mandatory" TSM formula does not offer.[20]

Justice Kennedy observed that the *Graham* approach, as further developed in three subsequent Supreme Court cases decided within ten years of that case,[21] is based on several instructive principles for determining the validity of a patent based on the combination of elements found in the prior art:

- When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one.
- If a person of ordinary skill can implement a predictable variation, it is likely obvious under § 103 and unpatentable.
- 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.[22]

Justice Kennedy then provided additional guidance for courts in following these principles. To determine whether there was an apparent reason to combine the known

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[16] *Id.*

[17] *Id.*

[18] KSR Int'l Co. v. Teleflex, Inc., 119 Fed. Appx. 282 (Fed. Cir. 2005), *cert. granted,* 74 U.S.L.W. 3720 (U.S. June 26, 2006) (No. 04-1350).

[19] KSR Int'l Co. v. Teleflex Inc., 550 U.S. ___ , 127 S.Ct. 1727, 1735 (2007).

[20] *Id.* at 1739, 1741.

[21] United States v. Adams, 383 U.S. 39 (1966); Anderson's-Black Rock, Inc. v. Pavement Salvage Co., 396 U.S. 57 (1969); Sakraida v. Ag Pro, Inc., 425 U.S. 273 (1976).

[22] *KSR,* 127 S.Ct. at 1740.

elements in the manner claimed by the patent at issue, courts should explicitly engage in an analysis that considers the following elements:

- the 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.[23]

He further explained that a court should not solely take into account the "precise teachings" of the prior art, but rather can consider the "inferences and creative steps" that a person of ordinary skill in the art would likely use.[24]

The Federal Circuit's TSM test, and its mandatory application, is contrary to *Graham* and its progeny because it limits the obviousness analysis and is too formalistic, Justice Kennedy argued.[25] In addition, he believed that the TSM test hindered the ability of courts and patent examiners to rely upon "common sense."[26] In dicta, the Court's opinion appears to imply that the TSM test could have contributed to issued patents or unsuccessful challenges to the validity of certain patents that do not reflect true innovation: "Granting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, for patents combining previously known elements, deprive prior inventions of their value or utility."[27] Finally, Justice Kennedy criticized the Federal Circuit for "overemphasizing the importance of published articles and the explicit content of issued patents."[28]

However, Justice Kennedy allowed that TSM provides "a helpful insight" — that a patent comprised of several elements is not obvious just because each of those elements was, independently, known in the prior art.[29] This "essence" of the TSM test is not necessarily inconsistent with the *Graham* analysis, and thus he predicted that the Federal Circuit has likely applied the TSM test on many occasions in ways that accord with the *Graham* principles. It is the Federal Circuit's rigid application of its TSM rule, however, that the Court deemed was problematic in this case.[30]

Justice Kennedy identified four specific legal errors committed by the Federal Circuit. First, the appellate court had held that courts and patent examiners should look only to the problem the patentee was trying to solve, rather than other problems addressed

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[23] *Id.* at 1740-41.

[24] *Id.* at 1741.

[25] *Id.*

[26] *Id.* at 1742.

[27] *Id.* at 1741.

[28] *Id.* ("In many fields there may be little discussion of obvious techniques or combinations, and market demand, rather than scientific literature, may often drive design trends.").

[29] *Id.*

[30] *Id.*

by the patent's subject matter.[31] Second, the appellate court had assumed that a person of ordinary skill trying to solve a particular problem will be led only to those elements of prior art designed to solve the same problem; however, "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."[32] The third error of the lower court was its erroneous conclusion that a patent claim cannot be proved obvious by showing that the combination of elements was "obvious to try"; instead, Justice Kennedy noted, "the fact that a combination was obvious to try might show that it was obvious under § 103."[33] The final error was the Federal Circuit's adherence to "rigid preventative rules" to avoid the risk of hindsight bias on the part of courts and patent examiners, because such rules "deny factfinders recourse to common sense."[34]

As to the specific patent claim at issue in this case, the Court adopted the obviousness analysis of the district court and expressly held that the claim "must be found obvious" in light of the prior art.[35]

Concluding Observations. The *KSR* decision potentially may generate litigation over the validity of some patents issued and upheld under the Federal Circuit's TSM standard; the uncertainty over the enforceability of certain patents[36] thus has ramifications for lawsuits between alleged patent infringers and patent holders, as well as between patentees and their licensees (for example, a patent licensee may want to challenge the validity of the patent to avoid paying royalties or even the imposition of an injunction). While the *KSR* Court rejected TSM as the *sole* test for obviousness, the Court did not expressly invalidate it either. Instead, the Supreme Court explained that courts and patent examiners, in evaluating a patent's claimed subject matter for obviousness under § 103, must use common sense, ordinary skill, and ordinary creativity in applying the *Graham* factors and principles to the specific facts of the case.

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[31] *Id.* at 1742 ("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.").

[32] *Id.*

[33] *Id.* ("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.").

[34] *Id.*

[35] *Id.* at 1743-44 ("There then existed a marketplace that created a strong incentive to convert mechanical pedals to electronic pedals, and the prior art taught a number of methods for achieving this advance.").

[36] For example, in addition to undermining the foundation of the TSM standard, the *KSR* decision explicitly rejected Federal Circuit precedent that had held that "obvious to try" did not constitute obviousness. There are some instances when "obvious to try" could be used to prove obviousness, the *KSR* Court ruled. *Id.* at 1742. Existing patents that may be vulnerable to the "obvious to try" assertion could face the prospect of being invalidated.