



Continuing Legal Education Program  
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On April 30, 2007, the Supreme Court of the United States decided a patent case, *KSR International Co. v. Teleflex Inc. et al.*, No. 04-1350, which may have significant implications for the process of securing patent protection in the future, as well as in assessing, and defending, the validity of issued U.S. Patents.

The *KSR* case involves the issue of what standard Patent Examiners and Courts will apply in determining whether or not a claimed invention is obvious, and therefore patentable, over a combination of prior art references. In brief, the Supreme Court held that the use of the so-called “teaching/suggestion/motivation” (“TSM”) test developed by the specialized patent court, the Federal Circuit Court of Appeals, while useful as a factor in determining obviousness, was not acceptable as the lone factor. The Court re-affirmed its own 1966 *Graham V. John Deere* decision on the subject as describing the correct and complete test for obviousness.

We believe that the *KSR* decision represents fine-tuning rather than a significant departure from existing law. We also believe that the emphasis that the Supreme Court placed on certain “obviousness factors” may have a significant effect on how the U.S. Patent and Trademark Office (“PTO”) examines patent applications, and how difficult, and costly, the patent procurement process may become. Finally we believe that those parts of the TSM test which were disapproved by the Supreme Court may raise the level of uncertainty regarding the validity and enforceability of some existing patents.

***KSR International Co. v. Teleflex Inc. et al.***

**Procedural Posture:**

Teleflex accused KSR of infringing the Engelgau patent by adding an electronic sensor to one of KSR’s previously designed pedals, and KSR countered that claim 4 was invalid under 35 U. S. C. §103 because its subject matter was obvious. The District Court granted summary judgment in KSR’s favor. The Court of Appeals reversed. It ruled the District Court had not been strict enough in applying the test, having failed to make “‘finding[s] 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 attach an electronic control to the support bracket of the Asano assembly.” The Court of Appeals held that the District Court was incorrect that the nature of the problem to be solved satisfied this requirement because unless the “prior art references address[ed] the precise problem that the patentee was trying to solve,” the problem would not motivate an inventor to look at those references.

#### **Facts:**

- Teleflex Incorporated and its subsidiary Technology Holding Company, referred to collectively as Teleflex, holds Patent No. 6,237,565 (sometimes called “the Engelgau patent”), which is entitled “Adjustable Pedal Assembly With Electronic Throttle Control” and discloses a position-adjustable pedal assembly with an electronic pedal position sensor attached a fixed pivot point.
- KSR developed an adjustable pedal system for cars with cable-actuated throttles and obtained its 6,151,976 patent for the design, General Motors Corporation chose KSR to supply adjustable pedal systems for trucks using computer-controlled throttles. To make the '976 pedal compatible with the trucks, KSR added an off-the-shelf, modular sensor to its design, which allegedly infringes claim 4 of '565.
- In car engines without computer-controlled throttles, the accelerator pedal interacts with the throttle via cable or other mechanical link. The pedal arm acts as a lever rotating around a pivot point, and the rotation caused by pushing down the pedal opens valves in the carburetor or fuel injection unit; as more fuel and air are released, combustion increases and the car accelerates. The reverse occurs when the pedal is released. For a computer-controlled throttle to respond, the mechanical operation of the pedal must be translated into digital data the computer can understand.
- Prior art: Beginning in the 1970's, inventors designed pedals that could be adjusted to change their location in the footwell to adjust for different sized drivers. Important for this case are two adjustable pedals disclosed in U. S. Patent Nos. 5,010,782 (Asano) and 5,460,061 (Redding). The Asano patent reveals a support structure that houses the pedal so that even when the pedal location is adjusted relative to the driver, one of the pedal's pivot points stays fixed. The pedal is also designed so that the force necessary to push the pedal down is the same regardless of adjustments to its location. The Redding patent reveals a different, sliding mechanism where both the pedal and the pivot point are adjusted. The 5,241,936 patent taught that it was preferable to detect the pedal's position in the pedal mechanism, not in the engine, so the patent disclosed a pedal with an electronic sensor on a pivot point in the pedal assembly. The Smith patent (5,063,811) taught that to prevent the wires



connecting the sensor to the computer from chafing and wearing out, the sensor should be put on a fixed part of the pedal assembly rather than in or on the pedal's footpad. The 5,385,068 patent disclosed self-contained modular sensors, which can be taken off the shelf and attached to any mechanical pedal to allow it to function with a computer-controlled throttle.

- Claim 4 of the Engelgau patent describes a mechanism for combining an electronic sensor with an adjustable automobile pedal so the pedal's position can be transmitted to a computer that controls the throttle in the vehicle's engine:

"4. A vehicle control pedal apparatus comprising: a support adapted to be mounted to a vehicle structure;

an adjustable pedal assembly having a pedal arm moveable in fore and aft directions with respect to said support;

a pivot for pivotally supporting said adjustable pedal assembly with respect to said support and defining a pivot axis; and

an electronic control attached to said support for controlling a vehicle system;

said apparatus characterized by said electronic control being responsive to said pivot for providing a signal that corresponds to pedal arm position as said pedal arm pivots about said pivot axis between rest and applied positions wherein the position of said pivot remains constant while said pedal arm moves in fore and aft directions with respect to said pivot."

- During prosecution of the Engelgau patent, the PTO rejected a claim that was similar to, but broader than, patented claim 4. The claim did not include the requirement that the sensor be placed on a fixed pivot point. The Examiner concluded the claim was an obvious combination of the prior art disclosed in Redding and Smith: "Since the prior art references are from the field of endeavor, the purpose disclosed . . . would have been recognized in the pertinent art of Redding. Therefore it would have been obvious . . . to provide the device of Redding with the . . . means attached to a support member as taught by Smith."
- The trial court found that based on its claim construction, the expert testimony and the parties' stipulations, that the level of ordinary skill in pedal design was "an undergraduate degree in mechanical engineering (or an equivalent amount of industry experience) [and] familiarity with pedal control systems for vehicles." Following Graham, the court compared the teachings of the prior art to the claims of Engelgau. It found "little difference": Asano taught everything contained in claim 4 except the use of a sensor to detect the pedal's position and transmit it to the computer controlling the throttle. That additional aspect was revealed in sources such as the '068 patent and off-the-shelf sensors used by Chevrolet.



- Under the controlling cases from the Court of Appeals for the Federal Circuit, however, the District Court was not permitted to stop there. The court was required also to apply the TSM test. The District Court held KSR had satisfied the test. It reasoned (1) the state of the industry would lead inevitably to combinations of electronic sensors and adjustable pedals, (2) Rixon provided the basis for these developments, and (3) Smith taught a solution to the wire chafing problems in Rixon, namely locating the sensor on the fixed structure of the pedal. This could lead to the combination of Asano, or a pedal like it, with a pedal position sensor.

**Issue:**

Whether the Federal Circuit erred in holding that a claimed invention cannot be held obvious, and thus unpatentable under 35 U.S.C. §103(a), in the absence of some proven “teaching, suggestion, or motivation that would have led a person of ordinary skill in the art to combine the relevant prior art teachings in the manner claimed.”?

**Holding:**

(1) The Supreme Court re-affirmed its holding in *Graham v. John Deere Co. of Kansas City*, 383 U. S. 1 (1966), in which the Court set out an objective framework for applying the statutory language of §103: “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.”

(2) The Court of Appeals addressed the question of obviousness in a manner contrary to §103 and Supreme Court precedents. Despite the value of the TSM test to identify a “reason” that the patent owner combined elements of the prior art, the Court concluded that the Federal Circuit applied this test too narrowly. Whether there is a “reason” to combine known elements as combined by a patentee, a court will often have to look to (1) interrelated teachings of multiple patents; (2) the effects of demands known to the design community or present in the marketplace; and (3) the background knowledge possessed by a person having ordinary skill in the art.

**Summary Analysis:** Seeking to resolve the question of obviousness with more uniformity and consistency, the Court of Appeals for the Federal Circuit has employed an approach referred to as the “teaching, suggestion, or motivation” test (TSM test), under which a patent claim is only proved obvious if “some motivation or suggestion to combine the prior art teachings” can be found in the prior art, the nature of the problem, or the knowledge of a person having ordinary skill in the art.



The *KSR* opinion reverses the decision of the Federal Circuit, identifying four specific errors in the Federal Circuit's conception of obviousness under the TSM test:

1. In searching for a reason to combine elements of the prior art, it erroneously looked only to the problem to be solved by the applicant, rather than looking to any known problem or need for the combination: "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."
2. It erroneously assumed that a person of ordinary skill in the art will be led only to the prior art that solves the problem at hand: "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."
3. It erroneously concluded that a patent cannot be obvious merely because the combination 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."
4. It erroneously found that the risk of hindsight analysis required preventative rules that deny fact finders recourse to common sense: "A fact finder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning.... Rigid preventative rules that deny fact finders recourse to common sense, however, are neither necessary under our case law nor consistent with it."

While care must be taken to avoid reading too much into the failure to approve or disapprove a case, it is interesting that the Court chose to cite two recent Federal Circuit decisions, *DyStar Textilfarben GmbH & Co. Deutschland KG v. C. H. Patrick Co.*, 464 F. 3d 1356 (Fed. Cir. 2006) and *Alza Corp. v. Mylan Labs., Inc.*, 464 F. 3d 1286, 1291 (Fed. Cir. 2006), for the proposition that "they may describe an analysis more consistent without earlier precedents and our decision here," leaving that determination to the Court of Appeals "to consider in its future cases."



## Lessons:

1. For pending applications and opinions, do not argue from the inventor's perspective alone and in relation only to the problem to be solved; do not argue that the prior art is simply non-analogous, when common sense suggests the prior art could be more broadly applied; do not argue that claims are patentable because a combination of prior art is obvious to try; and do not argue for a rigid or formulaic application of TSM.
2. For issued patents, consider whether to recommend that a client consider reissue if during prosecution Applicants argued non-obviousness in relation only to the problem to be solved; argued non-obviousness because the prior art was non-analogous; argued non-obviousness because a combination of prior art was *merely* obvious to try; or argued non-obviousness because there was no teaching or suggestion in the cited art or in the art as a whole.
3. For pending applications and opinions, do argue *Graham, U.S. v. Adams*; *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*; and *Sakraida v. Ag Pro, Inc.* if they apply (these are mechanical cases involving combining known elements).
4. For pending applications and opinions, do consider continuing to argue *Dystar v. Patrick* and *Mylan v. Alza* if they apply. *Dystar* and *Alza* make clear that the ability to define the relevant art and the level of skill in the art can be critical.

(Note: *Dystar* held that when a combination of references results in a product or process that is more desirable, because it is stronger, cheaper, cleaner, faster, lighter, smaller, more durable, or more efficient, the conclusion that an artisan would not think to combine references absent explicit direction to do so may be rational when the level of skill is found to be low. When the level of skill is relatively high, "one can assume comfortably that such an artisan will draw ideas from the relevant art without being told to do so." The court explained that the TSM test informs the *Graham* analysis in two ways: as a subsidiary requirement of the first factor, the scope and content of the prior art, and in connection with the third *Graham* factor, the level of ordinary skill in the art. *Alza* held that one of ordinary skill in the art would have been motivated to combine the cited references; implicit proof of a motivation to combine references was sufficient. The cited references in combination described all the elements of the disputed claims. Because a person of ordinary skill in the relevant art would utilize general knowledge regarding the predictive utility of a well known absorption test, it would have been obvious to reach the claimed invention, which had only absorption characteristics to distinguish it from the prior art.)



## Major effects:

TSM remains one test for obviousness. It is important to note that the Supreme Court did not overrule the validity of the TSM test for use in determining whether an invention is obvious under 35 U.S.C. §103; rather, the Court disapproved of the manner in which the Federal Circuit applied the test. The *KSR* decision called the TSM test a “helpful insight for determining obviousness,” and said that “[t]here is no necessary inconsistency between the idea underlying the TSM test and the *Graham* analysis.” However, it also said that the TSM test should not be used as a mandatory formula that limits or replaces a more expansive obviousness inquiry required under the four *Graham* factors. Taken as a whole, many commentators have suggested that the Court was providing a correction for a useful doctrine which it believed had been applied too rigidly and formulaically.

Heightened importance of predictability. While the Court's decision did not establish a clear test of obviousness, its repeated references to “predictability” do suggest that factor as an important for obviousness determinations:

“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield **predictable results.**”

“[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a **predictable result.**”

“If a person of ordinary skill can implement a **predictable variation,** Section 103 likely bars its patentability.”

“[A] court must ask whether the improvement is **more than the predictable use of prior art elements according to their established functions.**”

In the absence of the TSM test as the primary test for non-obviousness, it appears that predictability takes on added significance.

Heightened importance of level of skill in the art. In discussing each of the four “errors” made by the Federal Circuit, the Supreme Court refers extensively to the knowledge, reasoning, motivations, and actions of a person of ordinary skill in the art (POSITA). Thus, the skill of the POSITA is fundamental to each of these considerations. As noted above, while the level of skill in the art has always been a factor under *Graham*, it has not generally been treated a primary factor. In the absence of the TSM



test as the primary test for non-obviousness, it appears to us that the level of skill in the art takes on added significance.

How to apply TSM today:

1. An explicit **teaching** in the prior art (e.g. “combine A with B”) is still sufficient to invalidate issued patents and prevent patent grant... and always has been. But an **explicit** teaching is now **not** required.
2. A **suggestion** to combine may or may not exist in the prior art or the nature of the problem to solved, and the issue can still be argued.
3. **Motivation** is critical: what are the skill of the POSITA and the predictability of the art.
4. We can no longer use TSM as a shortcut for full a *Graham* analysis.

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