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## THE EFFECTS OF *KSR V. TELEFLEX* ON PATENT LICENSING COSTS

### Abstract

The United States Supreme Court recently issued a ruling making it harder to obtain a valid patent or enforce an existing one. The Court essentially raised the bar for “obviousness” by making the criterion, whereby firms demonstrate that their sought patent is not obvious, more restrictive. There are important implications to this ruling for corporations, legal practitioners and legal scholars. This article attempts to model, in simple terms, the impact of *KSR International Co. v. Teleflex Inc.* on patent licensing costs and demonstrates that patent licensing costs are likely to decrease on average (or in the aggregate) as a result of the ruling.

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## I. Introduction

[¶1] The fundamental criteria for obtaining a patent in the United States are that the invention must be: 1) novel; 2) non-obvious; and 3) have utility. The “utility” criterion dates to the first United States Patent Act of 1790.<sup>2</sup> Under its terms patents could be granted for inventions that were “sufficiently useful and important.”<sup>3</sup> The “novel” criterion dates to the Patent Act of 1836,<sup>4</sup> which required the applicant to “particularly specify and point out the part, improvement, or combination, which he claims as his own invention or discovery.”<sup>5</sup> The “non-obvious” criterion dates to 1850 and the decision in *Hotchkiss v. Greenwood*, which stated that “unless more ingenuity and skill in applying [an] old method . . . were required in the application of it to [a purported new invention] than were possessed by an ordinary mechanic acquainted with the business, there was an absence of that degree of skill and ingenuity which constitute essential elements of every invention.”<sup>6</sup>

[¶2] In brief, novelty implies that no one can patent something that is already known (e.g., the wheel). Moreover, if the invention is described in a printed publication or sold anywhere in the world, it is not novel. “Non-obvious” means that the invention cannot have been conceived or invented by someone “having ordinary skill in the art.”<sup>7</sup> For example, if a 12 year old playing with a toy chemical set accidentally discovers cold fusion and solves the earth’s energy needs, the resulting invention is not likely to be deemed acceptable for patenting. Moreover, if anything was known or invented - this would comprise the “prior art” - at the time of the invention, then that would make the “new” invention obvious to a person having ordinary skill in the art. And finally, “utility”

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<sup>2</sup> Patent Act of 1790, ch. 7, §1, 1 Stat. 109, 110 (1790) (promoting the progress of useful arts) (repealed 1793).

<sup>3</sup> *Id.* at 110.

<sup>4</sup> Patent Act of 1836, ch. 357, §6, 5 Stat. 117, 119 (1836) (repealed 1842). The Patent Act of 1836 repealed the Patent Act of 1793, which had slightly modified the earlier Patent Act of 1790. Patent Act of 1793, ch. 11, 1 Stat. 318 (1793) (repealed 1836).

<sup>5</sup> Patent Act of 1836 §6, 5 Stat. at 119.

<sup>6</sup> *Hotchkiss v. Greenwood*, 52 U.S. 248, 267 (1850).

<sup>7</sup> MANUAL OF PATENT EXAMINING PROCEDURE §2141.03 (8th ed., 5th rev. 2007).

means that an invention must perform some function, and generally have utility or otherwise be beneficial to society.

[¶3] An example of these combined criteria in action are that one could not simply take the periodic table of elements and combine these 118 elements into random combinations and patent the resulting compounds in the hope that someday a use (and hence a value) might be found for these. As a side point, the actual number of possible combinations is infinite. The permutations of combinations are fixed, but the amount of each element could be varied to an infinite degree (*e.g.*, one molecule, two molecules, three molecules). Nevertheless, a very large number of random compounds could be determined with specificity.

[¶4] Note that these three criteria are necessarily vague – there is no mathematical formula which determines with precision whether any particular invention satisfies each of these criteria. As a result, the determination as to a patent’s validity is often left to the discretion of the judge and the flexibility of interpretation applied to these criteria.

## **II. *KSR v. Teleflex***

[¶5] In April 2007 the United States Supreme Court issued its ruling in *KSR International Co. v. Teleflex Inc.* In brief, the Court essentially made it more difficult for inventors to obtain patents or patent holders to enforce patents by imposing more restrictive guidelines on whether a given invention met the burden of being non-obvious:

[I]f 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 that person’s skill. A court must ask whether the improvement is more than the predictable use of prior-art elements according to their established functions.<sup>8</sup>

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<sup>8</sup> *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1731 (2007).

[¶6] On July 31, 2007 the article *How a Patent Ruling Is Changing Court Cases* in the *Wall Street Journal* indicated that lower-court judges have begun to rule in favor of companies defending themselves against infringement lawsuits.<sup>9</sup> The article further stated:

Technology and financial services companies were particularly hopeful after the Supreme Court ruling. These companies in recent years have faced a flood of costly patent-infringement lawsuits, often brought by patent-licensing and -holding companies -- often derisively called “patent trolls” -- that buy up patents with the aim of obtaining royalties from alleged infringers. These companies and other patent holders argue that courts should vigorously protect ownership rights or companies will be unwilling to take the risks necessary for innovation.<sup>10</sup>

[¶7] In addition, a brief review of popular press, legal journals and other public sources indicates that while the general consensus is that patents will be more difficult to obtain, and perhaps enforce, there is little agreement as to the overall effects of *KSR* on the amount of patent litigation and, more importantly, on the cost of licensing. The purpose of this paper is to present a simple model which attempts to describe the effect of *KSR* on licensing costs.

### **III. The effect of *KSR* on licensing costs**

[¶8] While the impact of *KSR* on the amount of litigation is uncertain, it is relatively clear that *KSR* will have an immediate impact on the aggregate costs of licensing.<sup>11</sup> I have defined a model which incorporates the proposed cost of the license (e.g., royalty rate), the fixed costs of litigating, the variable cost of litigating, and the probability of prevailing should one choose to litigate. The following numerical examples are illustrative.

[¶9] Suppose a firm is faced with the choice between paying \$250,000 for a fully paid up lifetime license or litigating. Further assume that pre-*KSR*, the probability of winning a

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<sup>9</sup> Peter Lattman, Editorial, *How a Patent Ruling Is Changing Court Cases*, WALL ST. J., July 31, 2007, at B1.

<sup>10</sup> *Id.*

<sup>11</sup> The aggregate cost of licensing is defined as the overall cost of licensing for all patents.

challenge was 25% (or conversely, the probability of losing a challenge was 75%). Case [1] in Table 1 indicates that the firm's expected value of litigating the patent (i.e., refusing to take a license and proceeding to litigation) would be negative, and so the optimal solution would be to simply pay for the license.<sup>12</sup>

**Table 1: Numerical Examples**

Timing relative to <i>KSR</i>	Case	Cost of License	fixed cost of litigating	variable cost of litigating (as % of award)	Probability of Losing a Challenge	Total Cost of litigating	Expected Value of Litigating	Outcome
		[a]	[b]	[c]	[d]	[e]=[b]-[c]*a]	[f]=[1-d]*a+e	
Pre-	[1]	\$250,000	(\$100,000)	5%	75%	(\$112,500)	(\$50,000)	Take license
Post-	[2]	\$250,000	(\$100,000)	5%	25%	(\$112,500)	\$75,000	Litigate
Post-	[3]	\$142,856	(\$100,000)	5%	25%	(\$107,143)	(\$1)	Take license

¶10] Now assume that post-*KSR*, the firm feels that its probability of winning a challenge actually increases to 75% (or conversely the probability of losing a challenge decreases to 25%). As shown under case [2], this would indicate that the firm would prefer to litigate the outcome rather than simply pay for a license since the expected value of litigating is positive. Note that under this scenario, there would actually be an increase in litigation as firms who were considering taking out licenses (or firms that already have licenses) now would decide to challenge the patent holder.

¶11] Of course, one must also consider the issue from the point of view of the licensor. Its calculations are somewhat different. Let us assume that the licensor knows the assumptions and values as given above and agrees with the post-*KSR* probabilities given in case [2]. The licensor therefore needs to alter the one parameter value under its control such that the licensee again simply takes the license and decides not to litigate. The only way that the licensor can do this is by changing the cost of license such that the expected value to the licensee of litigating the patent flips back to just barely negative. In the simple example given above, this occurs when the cost of the license (e.g., parameter [a]

<sup>12</sup> This model ignores any signaling affects or reputational effects which might be considered in future scenarios, i.e., a firm may choose to litigate even though the expected outcome is negative in order to send a message to future potential licensors.

in the example) is set at \$142,856. At this point, the expected value to the licensee of litigating the patent is minus one dollar, and so the licensee is better off taking a license.

[¶12] As this logic gets applied to all licenses and patents, the aggregate cost of licensing patents will clearly decrease. Or put another way, the average cost of licenses, all things being equal, will decline.

[¶13] This has important implications for patent holders, potential licensees, corporations, legal practitioners and legal scholars. For example, the *Georgia-Pacific* factors require the evaluation of: 1) “[t]he royalties received by the patentee for the licensing of the patent in suit, proving or tending to prove an established royalty;” and 2) “[t]he rates paid by the licensee for the use of other patents comparable to the patent in suit.”<sup>13</sup> If these historical values were set under pre-*KSR* conditions, then one might reasonably be able to argue that the historical rates are “high” given the new *KSR* criterion on obviousness and a new or current license would be less than those observed benchmarks.

#### **IV. Conclusion**

[¶14] In conclusion, it seems unlikely that *KSR* will result in a reduction of patents filed and may actually result in an increase in patent litigation as more patents are challenged (*i.e.*, it becomes more profitable to challenge patents). In contrast, the effect of *KSR* on licensing costs is likely to be quite clear – the average cost of a license will decrease. Note that this analysis has demonstrated the direction of the impact on licensing costs, *i.e.*, downward pressure. It is beyond the scope of this paper to determine the actual magnitude of the downward movement.

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<sup>13</sup> *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), *modified on other grounds*, 446 F.2d 295 (2d Cir. 1971).