

CASE COMMENTS

UNDERSTANDING THE MACHINE-OR-TRANSFORMATION TEST: BILSKI *ET AL.*, v. KAPPOS¹

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INTRODUCTION

Patent laws protect “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement.”² “The term ‘process’ means process, art, or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.”³ The present case examines whether a procedure to hedge energy commodity market risks is a patentable ‘process’ according to the laws.

FACTS OF THE CASE

The patent application in the present case claims protection for a procedure or process that instructs buyers and sellers of commodities in the energy market how to protect, or hedge against the risk of price fluctuations. Claim 1 of the application describes a series of steps instructing how to hedge risk in a series of steps. The other relevant claim, Claim 4 puts this concept into a simple mathematical formula. The remaining claims explain how Claim 1 and 4 can be used in the energy market to minimize risks.⁴

The patent examiner rejected the petitioners’ application because it wasn’t “implemented on a specific apparatus and merely manipulate[d] an abstract idea and solve[d] a purely mathematical problem without any limitation to a practical application”.⁵ The Board of Patent Appeals and Interferences affirmed and concluded that the application only involved mental steps directed to an abstract idea and did not transform physical matter. The United States Court of Appeals for the Federal Circuit heard the case and affirmed.⁶ The Court concluded that the “machine-or-transformation test” was the sole test for governing §101 analyses and thus, the test for determining patent eligibility of a process under that section. Three Judges wrote the dissent to the Court’s opinion. Judge Mayer held that the application was not patentable because it was a “business method.” Judge Rader found the claims an unpatentable abstract

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1 130 S.Ct. 3218 (2010); 561 U.S. (2010).

2 35 U.S.C. § 101.

3 35 U.S.C. § 100.

4 Bilski, slip op. at 1.

5 *Id.*

6 *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008).

idea. Judge Newman “disagreed with the court’s conclusion that petitioner’s application was outside the reach of §101. He did not say that the application should have been granted but only that the issue should be remanded for further proceedings to determine whether the application qualified as patentable under other provisions.”⁷

The petitioners appealed again and the United States Supreme Court granted Certiorari.

HOLDING

The Supreme Court confirmed the decision of the Court of Appeals and dismissed the Certiorari petition. Justice Kennedy delivered the opinion of the Court and Justice Stevens along with Justices Ginsburg, Breyer and Sotomayor, wrote a concurring opinion but differed on the reasoning given by Justice Kennedy. To decide the case, Justice Kennedy used the definition of process under §101 and the machine or transformation test as laid down in *Parker v. Flook*⁸, *Diamond v. Diehr*⁹ and *Gottschalk v. Benson*.¹⁰ According to him, §101 specifies four independent categories of inventions or discoveries that are eligible for patent protection: processes, machines, manufactures and compositions of matter. It is a broad section, and uses ‘wide and expansive terms.’¹¹ A §101 patent eligibility enquiry is only a threshold inquiry and any invention in question needs to fulfill conditions of novelty, nonobviousness, etc. The section does not cover three specific instances: ‘laws of nature, physical phenomena and abstract ideas.’¹² Justice Kennedy regards the appellants’ process as an unpatentable abstract idea.

The process claimed to be patented in the present case is simply a series of steps. It is held to be an abstract idea. Justice Kennedy, while striking down the present process as unpatentable goes on to say that any series of steps that is not itself an abstract idea or law of nature may constitute a process within the meaning of §101. However, Justice Stevens doesn’t agree with this. He uses historical and constitutional justification for interpreting the Act and the provisions of the section. He finds fault with Justice Kennedy’s holding that the method in question was unpatentable because it is a series of steps.¹³ According to him, the appellant’s method was unpatentable because it is a business method.

7 *In re Bilski*, (Newman, C.J., dissenting).

8 *Parker v. Flook*, 437 U.S. 584.

9 *Diamond v. Diehr*, 450 U.S. 175.

10 *Gottschalk v. Benson*, 409 U.S. 63.

11 *Chakrabarty*, 450 U.S. at 308.

12 *id.* at 309.

13 *Bilski*, slip op. at 2 (Stevens J., concurring).

ROADMAP

The present paper is a case comment and follows that pattern. The author introduces the case and the controversy in the first part and describes briefly the holding of the two justices that have written the judgment. This case is most important for holding that the machine-or-transformation test is not the sole test for determining patentability. Hence, the second part of this paper discusses this test in detail while highlighting the cases that the Court has relied upon. Some aspects that the court has brought up but has not dealt with will also be briefly pointed out here. This part introduces an international aspect to the comment by talking about this case in the context of the Indian Patent Act, 1970. The author discusses business method patents and abstract ideas in this part, thus bringing the decision closer to home and making this comment more relevant. The final part is the Conclusion and it highlights some key aspects using the opinion written by the concurring judge, Justice Stevens.

DETAILED ANALYSIS OF THE JUDGMENT

THE MACHINE OR TRANSFORMATION TEST AND UNPATENTABLE ABSTRACT IDEA

These two ideas are the core elements of Justice Kennedy's opinion. The machine or transformation test essentially requires the process, art or method to be tied to a machine or transform an article to be patentable, among other things. Other conditions include the requirement of novelty under §102, nonobviousness under §103, and full and particular description under §112.¹⁴ Unpatentable abstract idea is an exception created by the Courts to the four independent categories of inventions or discoveries that are patent eligible: processes, machines, manufactures and compositions of matter.¹⁵ While not required by statutory text, these exceptions are consistent with the notion that patentable processes must be new and useful.¹⁶

In *Cochrane v. Deener*, the Court explained that “a patentable process is an act or a series of acts performed upon the subject matter to be transformed and reduced to a different state or thing.”¹⁷ *Benson* held that “a claimed process is surely patent-eligible under §101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.”¹⁸ In *Diehr*, it was held, the “transformation and reduction of an article ‘to a different state or thing’ is the clue to the patentability of a process claim.”¹⁹

14 *Id.* at 9.

15 *Chakrabarty*, 447 U.S. at 308.

16 *Le Roy v. Tatham*, 14 How. 156, 174.

17 *Cochrane v. Deener*, 94 U.S. 780,788 (1877).

18 *Benson*, 409 U.S. at 70.

19 *Diehr*, 450 U.S. at 192.

Based on these decisions, the Court of Appeals ruled that the “machine or transformation test” was the sole test to be used for determining the patentability of a process under the Patent Act.

However, The Supreme Court cautions against making this the sole test for determining patentability. In other words, even if a process patent did not meet the machine or transformation test, it could still be patented in certain cases. In *Flook*, the court “assumed that a valid process patent may issue even if it does not meet the machine or transformation test.”²⁰ While acknowledging the fact that “patents for inventions that did not satisfy the machine-or transformation test were rarely granted in the earlier eras,”²¹ due to the change in times and the unexpected ways in which technology was progressing, the Court held that a dynamic construction to the language of §101 was to be given and a “categorical rule denying patent protection for inventions in areas not contemplated by Congress... would frustrate the purposes of patent law.” (citation omitted)²²

The machine or transformation test that this Court relies upon, talks about a process that is either attached to a machine or transforms an article in order to be patentable. Since the present process is neither, it is held to be unpatentable. The opinion of the Court never provides a satisfying account of what constitutes an unpatentable abstract idea.²³ It is assumed that the meaning will be obvious and that there is no necessity to point out a test to figure out how to identify an abstract idea. It is quite easy to believe that if the claimed invention is not attached to a machine or doesn’t transform an article, it is practically an abstract idea that does not belong to any particular person or entity. This is the pitfall that the Court of Appeals seems to have fallen in. It looks at all the precedents which talk about the machine or transformation test as “the important clue” in *Benson* or an “idea be[ing] surely patentable if it satisfied the machine or transformation test” in *Diehr* and assumes that the test was the sole test for determining patent eligibility in the first stage (emphasis supplied). This is confusing because those cases lay down that the machine or transformation test is only an important clue and not the only test for determining patentability. In other words, the Court has done nothing to clear the confusion as to what the scope of the three exceptions (laws of nature, physical phenomena and abstract ideas) actually are.

20 *Flook*, 437 U.S. at 590.

21 *Bilski*, slip op. at 12.

22 *Id.*

23 *Bilski*, slip op. at 9 (Stevens J., concurring).

BUSINESS METHODS & HISTORY AND INTERPRETATION OF PROCESS UNDER §101

The main thrust of Justice Steven's concurring opinion is that the present claims are unpatentable because they are a series of steps for conducting business. In other words they are business methods and hence are not patentable. The other prong is his interpretation of §101 of the Act. It defines patentable inventions in expansive terms²⁴ and includes processes within that meaning. The petitioner claims that their invention is a process under the meaning of that section and hence patentable. Justice Stevens starts off his discussion of patentability with this provision and justifies his decision with the historical acts of Congress.

Justice Kennedy suggests that any series of steps that is not in itself an abstract idea or law of nature may constitute a process within the meaning of §101. This, according to Justice Stevens' decision will 'only cause mischief.'²⁵ He believes, "the wiser course would have been to hold that the petitioner's method is not a process because it describes only a general method of engaging in business transactions and business methods are not patentable."²⁶

Generally speaking, methods are patentable if they fulfill certain other conditions since they are within §100(b)'s definition of process. According to Justice Kennedy, the "ordinary, contemporary, common meaning"²⁷ of method includes business methods. He looks at §273(b) defense of a claim of prior use for 'a method in a patent.' For purposes of this defense in §273(a)(3), method is defined as a 'method of doing or conducting business.' Thus, "by allowing this defense, the statute itself acknowledges that there may be business method patents."²⁸ A conclusion that business methods are unpatentable would render this defense unnecessary. Again, the Court cautions against assuming that since there is a defense available, all business methods are patentable. Some business method patents raise special problems in terms of vagueness and suspect validity.²⁹

Justice Stevens looks at other justifications for holding that business methods are not patentable. He looks at Congress' decision to "enact the Patent Act... against the background of a well settled understanding that a series of steps for conducting business cannot be patented."³⁰ Justice Stevens looks at

24 *Id.* at 10.

25 *Id.* at 2.

26 *Id.* at 2.

27 *Id.* at 14.

28 *Id.* at 15.

29 *EBay Inc v. MercExchange, L.L.C.*, 547 U.S. 388, 397 (2006).

30 *Bilski*, slip op. at 15 (Stevens J., concurring).

the understanding of business methods according to English law and; early American patent law where patents power was first issued for the “promot[ion] of... useful arts.”³¹ From the above, he concludes that “regardless of how one construes the term useful arts business methods are not included”³² (internal quotations omitted).

INDIAN LAW

The law regarding the patentability of a process unconnected to a machine and explaining only a claim as a series of steps is unclear. The fact that the laws have been amended in 2005 and not a lot of litigation has taken place in this arena to concretize the new law does not help the situation either.

According to §2(m) of the Patents Act, 1970 (as amended by the 2005 Act), a patent is granted to an ‘invention’ under the Act. The new definition of an invention, according to §2(j) is:

“A new product or process involving an inventive step and capable of industrial application.”

In the old 1970 Act, an invention was defined as,

“ ... Any new and useful-

- (i) Art, process, method or manner of manufacture;
- (ii) Machine, apparatus or other article;
- (iii) Substance produced by manufacture, and includes any new and useful improvement of any of them”.

This change in definition clearly indicates the shift in mindset of the Parliament. Though an invention had to be attached to a machine in the old Act to be patentable, the new Act has removed that requirement and has made any process that involves an inventive step patentable. This requirement of inventive step is slightly wider than the American requirement of nonobviousness,³³ which is an enquiry to be made if the claimed invention passes the threshold enquiry of abstract idea, laws of nature and physical phenomena.

The other requirement of industrial application is also on the lines of moving away from the requirement of attachment to a machine because industrial application does not necessarily have to be associated to a machine.

31 *Id.* at 20.

32 *Id.* at 22.

33 FEROUZ ALI KHADER, THE LAW OF PATENTS- WITH A SPECIAL FOCUS ON PHARMACEUTICALS IN INDIA 520 (2007).

“Industry [in this section] should be understood in its broadest sense as including any useful, practical activity as distinct from purely intellectual or aesthetic activity, and does not necessarily imply the use of a machine or the manufacture of an article.”³⁴ However, the legislation also disqualifies abstract theories and scientific discoveries according to §3(c). Taken together, an invention that is not an abstract theory, is patentable if it is a process capable of industrial application and has an inventive step. These two requirements form the same network of laws like in the US statute.

Applying this to the present case, it is clear that the claims are processes capable of industrial application. Now, applying Justice Kennedy’s decision, they are a series of steps instructing one as to how to hedge risk. This is an abstract idea and not capable of protection. Thus, the present claims do not meet the inventive step and non-abstract theory requirements under Indian law either. Though the requirements may be slightly different in both laws, the result has turned out to be the same, in that, a series of steps that describe a method of hedging risk and nothing more, does not constitute a patentable process.

CRITIQUE

The present judgment can be seen as something that is settling the confusion in the area of patentability of processes and business methods. However, there are some flaws in the Court’s opinion, most of which have been pointed out by Judge Stevens and taken care of.

First of these flaws is the fact that the Court confines itself to commenting upon three cases: Diehr, Flook and Benson. Although they may be landmark judgments when it comes to patenting processes, restricting the scope of this judgment means that the court is refraining from laying down a concrete test for determining the patentability of a process. Several amici have pointed out that making the machine-or-transformation test the sole test for determination will cause confusion but leaving the question open ended may not be the answer either.

The second issue is in Justice Stevens’ critique of the Court’s opinion. He frowns upon the Court’s interpretation of the “terms in the Patent Act as lay speakers use those terms and not as they have traditionally been understood in the context of patent law.” However, he misses the point entirely as to why the Court is discussing this interpretation. Justice Kennedy discussed this interpretation in the context of understanding “manufacture” according to §101.

The Court makes it clear that any deviation from the ordinary meaning should only be for the exceptions of laws of nature, physical phenomena and abstract ideas. Presumably, this is to narrow down the exceptions. [It is interesting to note, however, that Stevens himself refers to ‘Noah Webster’s First American Dictionary’ and several other dictionaries when there is well established precedent to understand the meaning of the term ‘art.’]³⁵

The third issue is the question of the application of the claimed process. The applicants have not clearly described the application of their claimed invention and as Justice Stevens points out, “the Court has limited the petitioner’s claims on processes for pricing as ‘claims on the basic concept of hedging or protecting against risk.’ The application of these processes, what data to use, etc., that were part of other claims, are understood to be mere ‘token post solution components.’ By doing this, the Court has “limit[ed] the petitioners claims to hedging and then concludes that hedging is an abstract idea rather than a term that describes a category of processes including the petitioner’s claims.”³⁶

The fourth point, again as pointed out by Justice Stevens is the Court’s categorical rejection of the submission that the word “process” must be read *noscitur a sociis* and limited to technological developments. Since, in § 100(b) the “definition itself contains the very ambiguous term”³⁷ to be defined, this was not a case “in which we must either follow a definition or rely on neighboring words to understand the scope of the ambiguous term” (internal quotation marks removed).³⁸

From the above discussion, it is clear that the machine or transformation test has been declared as an important test in determining patentability and not the sole test for the same. However, the fact that the Court has failed to provide a concrete test or at least a direction to decide the threshold level of patentability is a little disappointing. The two parts of the judgment work very well together with Justice Kennedy taking one viewpoint towards deciding claims and Justice Stevens taking the other. Both judges start with an examination of §101 of the Act and the definition -of process under it but end up with radically different reasons for holding those claims unpatentable. The case is also an example of a balance struck between confining the case to the facts and laying down a precedent that is good for all kinds of facts. However, this kind of balance does leave the reader a bit confounded as to the law and leaves them at the same point where they started.

35 *Bilski*, slip op. at 22 (Stevens J., concurring).

36 *Bilski*, slip op. at 8 (Stevens J., concurring).

37 *Id.* at 12.

38 *Id.*