



What Now For Patent Eligibility?

In *Bilski v. Kappos*, the Supreme Court Rejects
Machine-or-Transformation as the **Sole** Test

July 14, 2010



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Today's Panel

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Bilski

- The patent at issue: The claims provided steps explaining how buyers and sellers of commodities in the energy market can hedge against the risk of price changes.
- Claim 1:
 - A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:
 - “(a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumers;
 - (b) identifying market participants for said commodity having a counter-risk position to said consumers; and
 - (c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.”



What is Patentable?

- 35 U.S.C. § 101: “Whoever invents or discovers any new and useful **process**, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”



Bilski

- Real issue: Was the “machine-or-transformation” test the proper test for evaluating whether a “process” is patent eligible under Section 101?
- The machine-or-transformation test: The Federal Circuit had held that a process claim is patent-eligible only if “(1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.” *In re Bilski*, 545 F.3d 943, 954 (Fed. Cir. 2008).



Bilski – Why The Hype?

- Hope that the Supreme Court would:
 - Hold that the machine-or-transformation test is the test, or provide the proper test.
 - Provide guidance as to whether software patents are patent-eligible.
 - Provide guidance as to whether medical diagnostic patents are patent-eligible.
 - Say whether business method patents are patent-eligible. (But, what is a “business method”?)
 - Etc.



Bilski

- What the Supreme Court did:
 - The Court held that the machine-or-transformation test is not the only test for evaluating whether a process is patent eligible under Section 101. However, the Court did not provide an alternative test.
 - The Court stated that the machine-or-transformation test is an “important and useful clue” as to whether a process satisfies Section 101.
 - The Court held that courts should apply its previous precedent from *Benson*, *Flook* and *Diehr*, which held that laws of nature, physical phenomena and abstract ideas are not patent-eligible under Section 101.
 - Applying that precedent, the Court held that the patent-in-suit was invalid because it attempted to patent processes that were abstract ideas.



Bilski

- What the Supreme Court did not do:
 - The Court did not provide a new test.
 - The Court did not hold that all business methods are unpatentable.
 - The Court did not hold that any patents from the “Information Age,” including patents for software, advanced diagnostic medical techniques, and inventions based on linear programming, data compression, and the manipulation of digital signals, are or are not patentable.



Bilski

- The split among the justices is complicated.
- The case is a 5-4 split. However, Justice Scalia did not join Parts II-B-2 and II-C-2 of the majority opinion.
- Section II-B-2 includes dicta about new inventions in the “Information Age” and states that the machine-or-transformation test might not be right for those inventions. The 4 justices emphasized they were not commenting on the patentability of such inventions, however.
- In Section II-C-2, the 4 justices discussed setting a “high enough bar” to exclude vague business method inventions that may hinder innovation, but also said there may be some business methods that are patentable.
- Justices Breyer and Scalia tried to summarize what both the majority and Justice Stevens’ concurrence agreed on. (1) Phenomena of nature, mental processes, and abstract ideas are not patentable. (2) The machine-or-transformation test is helpful. (3) It is not the exclusive test. (4) The “useful, concrete and tangible result” test is not the test.



Apply Supreme Court Precedent – Back to the Future *Benson, Flook and Diehr*

- No set test, instead apply *Benson, Flook and Diehr* and the basic premise that laws of nature, physical phenomena and abstract ideas are not patent-eligible under Section 101.
- What do those cases stand for?
- What is an “abstract idea”?



Benson (1972)

- Claim 8 in *Benson*:
 - The method of converting signals from binary coded decimal form into binary which comprises the steps of
 - (1) storing the binary coded decimal signals in a reentrant shift register,
 - (2) shifting the signals to the right by at least three places, until there is a binary '1' in the second position of said register,
 - (3) masking out said binary '1' in said second position of said register,
 - (4) adding a binary '1' to the first position of said register,
 - (5) shifting the signals to the left by two positions,
 - (6) adding a '1' to said first position, and
 - (7) shifting the signals to the right by at least three positions in preparation for a succeeding binary '1' in the second position of said register.
- This claim is tied to a machine by including "registers." Nonetheless, the Court held it was an unpatentable abstract idea.
- The Court held that because the mathematical formula had no practical application except in connection with a computer, "the patent would wholly preempt the mathematical formula and, in practical effect, would be a patent on the algorithm itself."



Benson

- Is any software patentable under *Benson* if it does not transform a particular article? Why? What is a possible test?
 - The Court said: "It is said that the decision precludes a patent for any program servicing a computer. We do not so hold."
 - Appeal to Congress: "It may be that the patent laws should be extended to cover these programs, a policy matter to which we are not competent to speak. The President's Commission on the Patent System rejected the proposal that these programs be patentable.... If these programs are to be patentable, considerable problems are raised which only committees of Congress can manage, for broad powers of investigation are needed, including hearings which canvass the wide variety of views which those operating in this field entertain. The technological problems tendered in the many briefs before us indicate to us that considered action by the Congress is needed."



Flook (1978)

- The claims were to a “procedure for monitoring the conditions during the catalytic conversion process in the petrochemical and oil-refining industries.”
- Claim 1 in *Flook*:
 - A method for updating the value of at least one alarm limit on at least one process variable involved in a process comprising the catalytic chemical conversion of hydrocarbons wherein said alarm limit has a current value of $B_0 + K$ wherein B_0 is the current alarm base and K is a predetermined alarm offset which comprises:
 - (1) Determining the present value of said process variable, said present value being defined as PVL;
 - (2) Determining a new alarm base B_1 , using the following equation:
“ $B_1 = B_0(1.0 - F) + PVL(F)$
where F is a predetermined number greater than zero and less than 1.0;
 - (3) Determining an updated alarm limit which is defined as $B_1 + K$; and thereafter
 - (4) Adjusting said alarm limit to said updated alarm limit value.
- The *Flook* analysis looks at what is the innovation. The Court found that the only innovation was the reliance on a mathematical algorithm (in red). Everything else in the claim was old. Once that algorithm was removed from consideration, “the application, considered as a whole, contain[ed] no patentable invention,” and was an unpatentable abstract idea/algorithm.
- Also, “*Flook* stands for the proposition that the prohibition against patenting abstract ideas ‘cannot be circumvented by attempting to limit the use of the formula to a particular technological environment’ or adding ‘insignificant postsolution activity.’” *Bilski*, slip op. at 14 (quoting *Diehr*, 450 U.S. at 191-92).



Flook

- Is the *Flook* analysis correct?
- Does it mix § 101 with § 103?
 - The Court in *Flook* addressed this. The Court said: (1) Section 101 is designed to weed out “discoveries” that the statute is not designed to protect; and (2) its approach did consider the claim as a whole, even if it looks at whether there is anything inventive in the claim other than the algorithm. See *Flook*, 437 U.S. at 592-95.
 - The Court in *Bilski* approved of *Flook*’s approach.



Diehr (1981)

- The Court held that the claims were patentable.
- The claims covered a "method for 'molding raw, uncured synthetic rubber into cured precision products,' using a mathematical formula to complete some of its several steps by way of a computer."
- Claim 11:
 - A method of manufacturing precision molded articles from selected synthetic rubber compounds in an openable rubber molding press having at least one heated precision mold, comprising:
 - (a) heating said mold to a temperature range approximating a pre-determined rubber curing temperature,
 - (b) installing prepared unmolded synthetic rubber of a known compound in a molding cavity of predetermined geometry as defined by said mold,
 - (c) closing said press to mold said rubber to occupy said cavity in conformance with the contour of said mold and to cure said rubber by transfer of heat thereto from said mold,
 - (d) initiating an interval timer upon the closure of said press for monitoring the elapsed time of said closure,
 - (e) heating said mold during said closure to maintain the temperature thereof within said range approximating said rubber curing temperature,
 - (f) constantly determining the temperature of said mold at a location closely adjacent said cavity thereof throughout closure of said press,
 - (g) repetitively calculating at frequent periodic intervals throughout closure of said press the Arrhenius equation for reaction time of said rubber to determine total required cure time v as follows:
 - $\ln v = cz + x$
 - wherein c is an activation energy constant determined for said rubber being molded and cured in said press, z is the temperature of said mold at the time of each calculation of said Arrhenius equation, and x is a constant which is a function of said predetermined geometry of said mold,
 - (h) for each repetition of calculation of said Arrhenius equation herein, comparing the resultant calculated total required cure time with the monitored elapsed time measured by said interval timer,
 - (i) opening said press when a said comparison of calculated total required cure time and monitored elapsed time indicates equivalence, and
 - (j) removing from said mold the resultant precision molded and cured rubber article.



Diehr

- The Court held that "because the claim was not 'an attempt to patent a mathematical formula, but rather [was] an industrial process for the molding of rubber products,' it fell within § 101's patentable subject matter." *Bilski*, slip op. at 14 (quoting *Diehr*, 450 U.S. at 192–193).
- The Court found that the physical steps were not insignificant.
- Were the physical steps new, though?
- Did *Diehr* embrace *Flook*'s methodology? How can the cases be reconciled?
 - "In determining the eligibility of respondents' claimed process for patent protection under 101, their claims must be considered as a whole. It is inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis. This is particularly true in a process claim because a new combination of steps in a process may be patentable even though all the constituents of the combination were well known and in common use before the combination was made. The 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the 101 categories of possibly patentable subject matter." *Diehr*, 450 U.S. at 188–89.
 - Justice Stevens dissented in *Diehr*, yet he wrote the majority opinion in *Flook*.



Dann v. Johnson, 425 U.S. 219 (1976)

- This is another interesting case, decided after *Benson*, but before *Flook* and *Diehr*.
- The claims were for a “machine system for automatic record-keeping of bank checks and deposits.” The system provided customers with periodic statements that grouped entries into categories and provided subtotals of those categories.
- The Court refused to decide the issue based on Section 101.
- However, the Court held that the claims were invalid as obvious under Section 103.
- The Court reasoned that the banking industry extensively used data processing equipment and computer programs, including to provide statements to customers. The Court found that the claimed system did not do that much more than previous systems, for example, treating as a single account what previously might have been treated as separate accounts.
- However, the Court also relied on a specific prior art patent in its obviousness analysis.
- The case is interesting in part because it shows that the obviousness analysis might not be that much different than the patent-eligibility analysis under *Flook* in many instances.
 - But, obviousness is usually decided by a jury if there are any factual issues (even though obviousness is a question of law), while Section 101 patent eligibility is a matter of law decided by the court.
 - Therefore, the difference can be very important as a practical matter.