



Whyte Hirschboeck Dudek S.C.



Challenging. Redefining. Advancing.

# Patentability of Business Methods and Software Post-*Bilski*

Wisconsin Intellectual Property Law Association

Jonathan Fritz, J.D., M.S.  
Whyte Hirschboeck Dudek S.C.  
February 18, 2009



# Introduction

- Supreme Court Precedent Pre-Bilski
- Federal Circuit Cases
- *In re Bilski*
  - Machine or Transformation Test
- Application of *Bilski* and evolution of §101
  - Recent Cases
  - Example



# Patentable Subject Matter

## 35 U.S.C. Section 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 therefore...”



# Supreme Court Cases relating to Processes (computer related)

- Gottschalk v. Benson (1972)
- Parker v. Flook (1978)
- Diamond v. Diehr (1981)



# Gottshalk v. Benson (1972)

- A method for converting binary coded digital (BCD) numbers into pure binary numbers found not to be patentable subject matter.



# *Gottshalk Reasoning*

- Claimed method can be performed mentally.
- Argued that a process patent must be  **tied to a particular machine or apparatus or must operate to change articles or materials**  to a different state or thing.
- Patent would wholly pre-empt the mathematical formula and would be a patent on the algorithm itself.



# Parker v. Flook (1978)

- Method Claim with 3 steps:
  - 1) measuring the value of a process variable;
  - 2) using a mathematical formula or algorithm to calculate an updated alarm limit value; and
  - 3) adjusting alarm limit to updated value.
- An unpatentable mathematical formula does not become patentable subject matter by the addition of conventional, **post-solution activity**.



# Diamond v. Diehr (1981)

- A process for curing synthetic rubber, which includes as a step the use of a mathematical formula and a programmed digital computer, is patentable subject matter.
- Improved method of **operating molding presses to manufacture rubber articles** with a perfect cure:
  - calculate cure time according to repeated measurements of temperature of the press and repeated recalculating of cure time using the Arrhenius equation.



# *Diamond Reasoning*

- Transformation of raw uncured rubber to cured rubber.
- “Excluded from...patent protection are **laws of nature, natural phenomena, and abstract ideas.**”
- “An application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”



# Pre-Bilski CAFC Cases



## State St. Bank & Trust Co. v. Signature Financial Group (CAFC 1998)

- Claim is patentable if a process produces a “useful, concrete and tangible result.”
- *Bilski* found this test to be “insufficient to determine whether a claim is patent-eligible under § 101.



# *In re Comiskey (CAFC 2007/2009)*

- Rejected patent application for a system of mandatory arbitration disputes involving legal documents.
- Claims are directed to “the mental process of resolving a legal dispute between two parties by the decision of a human arbitrator.”
- "the present statute does not allow patents on particular systems that depend for their operation on human intelligence alone ... ."



# *In re Comiskey (CAFC 2007/2009)*

- 2007: Directed the PTO to determine whether some of Comiskey's claims adding a modern general purpose computer or modern communication device to an otherwise unpatentable mental process were invalid as obvious.
- 2007: “routine addition of modern electronics to an otherwise unpatentable invention typically creates a prima facie case of obviousness.”
  - DELETED -Revised Panel Opinion January 2009
- 2009: Method claims are unpatentable, remanded to PTO on §101, even though §103 was only issue on appeal.



# *In re Bilski* (CAFC 2008, en banc)

- Issue:
  - Patentability of Process Claims – 35 U.S.C. §101
  - Are Applicant's seeking to claim a fundamental principle or mental process?
- Background:
  - USPTO rejected all 11 claims directed to a method of hedging risk in the field of commodities trading.
  - BPAI sustained rejection of claims.
  - Federal Circuit *en banc* Rehearing *sua sponte*.
  - Federal Circuit affirmed rejection, 9-3 decision.
  - Process claims unpatentable because they are not tied to a specific machine or transform and article.



# 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 consumer;
  - (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.



# Prosecution

- Important Note: Claim 1 is not limited to transactions involving actual commodities and transactions may involve options.
- Examiner:
  - Invention is not implemented on a specific apparatus.
  - Merely manipulates abstract idea.
  - Solves a purely mathematical problem.
  - No limitations to a practical application
  - Therefore, the invention is not limited to the “technological arts.”



# Board of Patent Appeals

- Requirement of specific apparatus is erroneous.
- Examiner erred since case law does not support “technological arts” test.
- Claims do not involve a patent eligible transformation.
- Claim an abstract idea ineligible for patent protection
- Applied “useful, concrete and tangible result” test.



# 'Process' Claims

- 35 U.S.C. § 100(b)
- "The term 'process' means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material."
- *Bilski* noted: Provision is unhelpful given that the definition itself uses the term "process."



# *In re Bilski*

- “A claim that recites ‘physical steps’ but neither recites a particular machine or apparatus, nor transforms any article into a different state or thing, is not drawn to patent-eligible subject matter.”
- Explicitly rejected:
  - “Technological arts” test; and
  - “Useful, concrete and tangible result” test



# *In re Bilski*

- “We agree that **future developments in technology** and the sciences may present difficult challenges to the machine-or-transformation test.”
- “Thus, we recognize that the Supreme Court may ultimately decide to alter or perhaps even set aside this test to accommodate emerging technologies.”



# Machine or Transformation Test

- Process claims are 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.”



# Machine or Transformation Test

- “Use of a specific machine or transformation of an article must impose **meaningful limits on the claim’s scope** to impart patent-eligibility.”
- “The involvement of the machine or transformation in the claimed process must not merely be **insignificant extra-solution activity.**”



# Transformation Prong

- *Bilski* claims analyzed under this prong.
- Claims found unpatentable, because they did “not involve the transformation of any physical object or substance, or an electronic signal representative of any physical object or substance.”



# Transformation Prong

- Case law has taken a “measured approach” and *Bilski* declined to “expand the boundaries of what constitutes patent-eligible subject matter.”
- Referring to *Abele*: Transformation of “data” that represents physical and tangible objects is patent eligible. Electronic transformation of data into a visual depiction was sufficient.
- Adding data gathering step to an algorithm is insufficient.



# Machine Prong

- *Bilski* declined to decide whether a general purpose computer was sufficient to overcome the “machine” requirement.
- Must be a “specific machine”
- Nominal recitation of structure likely not sufficient.



# The “Clue”

- Citing *Benson*: “Transformation and reduction of an article’ ‘to a different state or thing’ **is the clue** to the patentability of a process claim that does not include particular machines.”
- *Bilski* relies upon this as the Supreme Court’s test for process patents.
- Addressed various caveats in *Benson* and *Flook*, but not repeated in *Diehr*.
  - *Benson*: “We do not hold that no process patent could ever qualify if it did not meet the requirements of our prior precedents.”
  - *Flook*: “As in *Benson*, we assume that a valid process patent may issue even if it does not meet [the machine-or-transformation test].”



# USPTO Memo: Clarification of “Processes” under 35 U.S.C. § 101

May 15, 2008

- “State of the law...under § 101 is evolving.”
- Limited to “whether a **method** claim qualifies as a patent eligible process under 35 U.S.C. § 101.”
- “A ‘Process’ has been given specialized, limited meaning by the courts.”



# USPTO Memo: Clarification of “Processes” under 35 U.S.C. § 101

May 15, 2008

- § 101 process must:
  - 1) be tied to another statutory class; or
    - Example: Tied to a particular apparatus.
  - 2) transform underlying subject matter to a different state or thing.
    - Example: Transform an article or material.



# USPTO Memo: Clarification of “Processes” under 35 U.S.C. § 101

May 15, 2008

- Claims reciting purely mental steps do not qualify as a statutory process.
- Claims should positively recite the other statutory class (machine, manufacture or composition of matter).
- Examiners are required to review for judicial exceptions (MPEP § 2106.IV.C).
  - Abstract idea, natural phenomenon, or law of nature



# Post-*Bilski* Decisions



# *Ex parte Halligan (BPAI 2008)*

- “A programmed computer method based upon the six factors of a trade secret...”
- Issue: Whether recitation of a programmed computer suffices to tie the process claims to a particular machine.
- “recitation fails to impose any meaningful limits on the claim’s scope as it adds nothing more than a general purpose computer that has been programmed in an unspecified manner to implement the functional steps recited in the claims.”
- “a field-of-use limitation is insufficient to render an otherwise ineligible process claim patent eligible.”



# *Classen Immunotherapies v. Biogen (CAFC 2008)*

- Generally directed to methods for evaluating vaccine immunization schedules.
  - A method of determining whether an immunization schedule affects the incidence or severity of a chronic immune-mediated disorder in a treatment group of mammals.
- Entire Decision:
  - In light of our decision in In re Bilski, 545 F.3d 943 (Fed. Cir. 2008) (en banc), we affirm the district court’s grant of summary judgment that these **claims are invalid** under 35 U.S.C. § 101. Dr. Classen’s claims are **neither “tied to a particular machine or apparatus” nor do they “transform[] a particular article into a different state or thing.”** Bilski, 545 F.3d at 954. Therefore we affirm.
- Request for rehearing *en banc* has been filed.



## *Ex parte Cornea-Hasegan (BPAI 2009)*

- Claims directed to methods of performing specific mathematical calculations.
- “Processor” not sufficient to meet the Machine Prong.
- “Computer readable media” found unpatentable.
- BPAI found that the § 101 analysis is the same, whether it is a “manufacture” claim or a “process” claim.



# *Ex parte Atkins (BPAI 2009)*

- Claim 9: A system for converting a unidirectional domain name to a bi-directional domain name.
- BPAI entered new (*sua sponte*) § 101 rejection.
- “System...is broad enough to read on a method and does not imply the presence of any apparatus.”
- Claim elements “failed to serve as structural limitations” and did not “imply any particular structure.”
  - Label Definer
  - Character reorder
  - Inferencer



# Application Preparation

- Include details within specification directing to any specific machine or apparatus elements.
- Include description of process steps that are directed to a physical transformation of an article or material.
- More details in specification to rely upon if Examiner rejects based upon § 101.
- Draft claims of varying scope.



# Prosecution of Applications

- Creative arguments for Machine or Transformation prongs.
- Identify specific system elements, such as memory modules, or various other specific elements.
- Argue that memory is physically transformed by process steps performed by a processor.
- Argue that the data represents physical and tangible objects, such as in *Abele*.
- Biological processes may be considered physical transformations, but
  - Could run afoul of judicial exceptions (natural phenomenon, etc.), or
  - May not be a “meaningful limit on the claim’s scope” or considered insignificant extra-solution activity.



# Issued Patents

- Review method/process, system and apparatus claims.
- Do they meet the Machine or Transformation Test?
- If not, consider re-issue or reexamination.
- Narrowing re-issue available even  $>2$  years since issuance of patent.
- Review specification for machine or physical transformation matter to narrow claims.



# When to Review Issued Patents?

- Exposed to Invalidity Attacks
  - Valuable licensing royalty;
  - Covers commercially sold product; or
  - Provides competitive advantage.
- Cost
  - Maintenance fees are coming due.
- Strategy may depend upon whether Cert. is granted.



# Example: Credentialer/Medical Malpractice Insurance Collaboration



# Examiner's § 101 Rejection

- Claim 2 was rejected because it was not:
  - 1) Within the technological arts; and
  - 2) An invention that produces a **useful, concrete and tangible result**.
- “This rejection could be overcome by amending the body of the claims to indicate that the various transfers of information occur electronically.”



# Claim 2

- 2. A **process** of linking credentialing information with a medical malpractice insurance application, the process comprising the steps of:
  - compiling credentialing information from a credentialing questionnaire regarding an associated healthcare provider;
  - obtaining the healthcare providers permission for release of the credentialing information to a medical malpractice insurance provider;
  - **electronically** forwarding at least a portion of the credentialing information to an associated medical malpractice insurance participant;
  - **electronically** transferring the at least a portion of the credentialing information to a medical malpractice insurance application; and,
  - processing the medical malpractice insurance application based on the at least a portion of the credentialing information.



# Specification

- “In the preferred embodiment, the inventive process occurs automatically via electronic transmission and computer data manipulation. The required computer hardware, and the necessary computer code, would be obvious to one skilled in the computer art.”
- Does the specification have sufficient detail to consider pursuing a narrowing re-issued patent?



# Alternative Technologies

- *Bilski* involved business method claims.
- New test applies to method/process claims.
- Technologies that may be affected include:
  - *Personalized Medicine*
  - *Software*
  - *Medical Diagnostics*
  - *Therapeutic Methods*
  - *Other methods and processes*



# Cert. Petition Filed

- Whether “a ‘process’ must be tied to a particular machine or apparatus, or transform a particular article into a different state or thing to be eligible for patenting under §101.
- Whether “‘machine or transformation’ test...contradicts clear Congressional intent that patents protect ‘method[s] of doing or conducting business.’”
- Likely hear within 2-3 months whether Cert. Petition is granted.



# Conclusion

- State St. Bank “useful, concrete and tangible result” test rejected.
- Machine or Transformation Test set forth as the test for §101 patentability of process claims.
- Technologies other than business methods and software affected.
- Cert. Petition filed January 28<sup>th</sup>, 2009
- Law of patent eligibility under §101 “is evolving”.



# Contact Information

- Jonathan M. Fritz, J.D., M.S.
- Whyte Hirschboeck Dudek S.C.
- 33 East Main St., Madison, WI
  - 608-258-7381
  - [jfritz@whdlaw.com](mailto:jfritz@whdlaw.com)

© 2009 Jonathan M. Fritz

