

# Intellectual Property: Computer and Business Process Court Decisions

**Thad Gabara**  
Patent agent  
thad@tyrean.com

Prepared for :

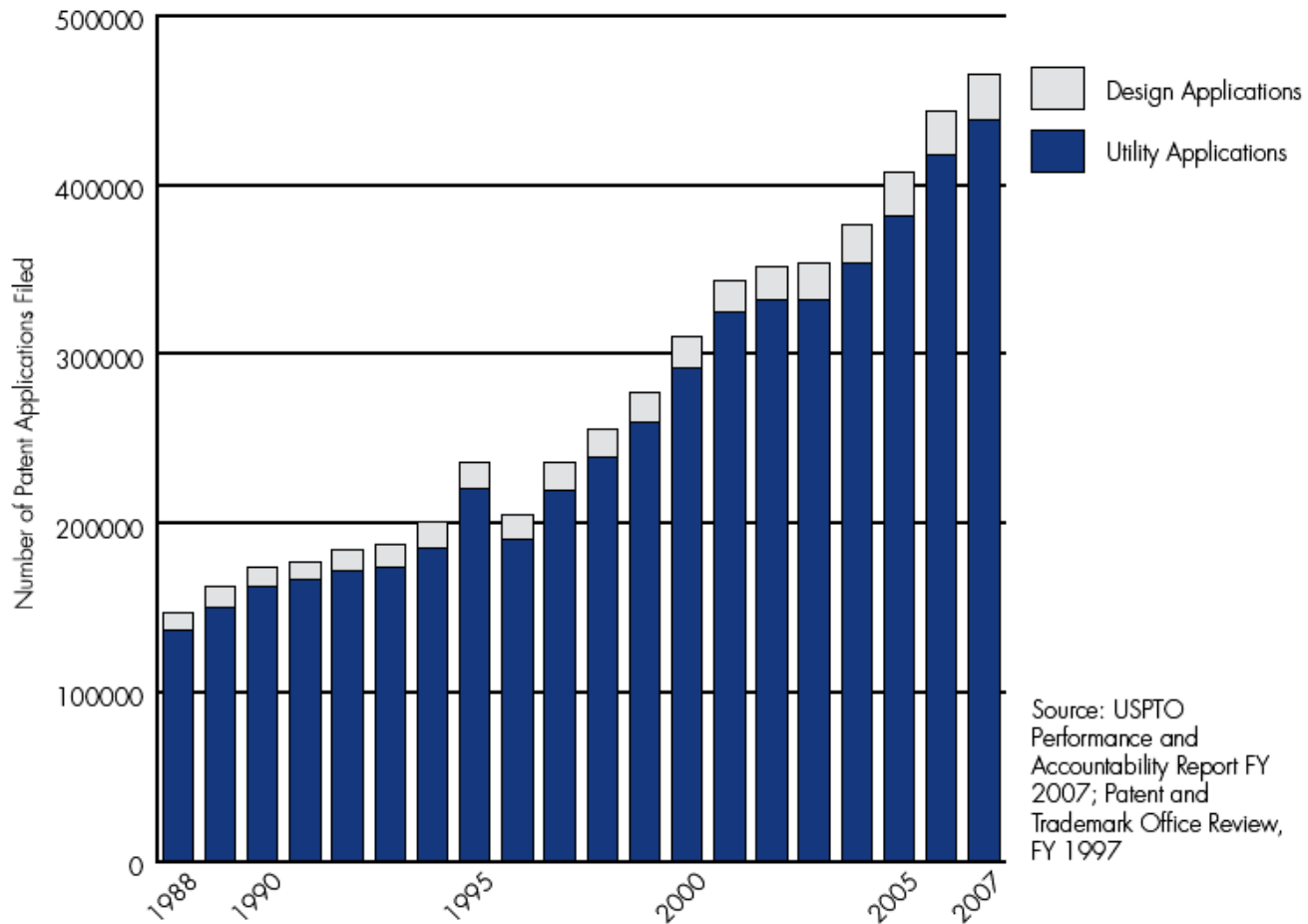
2008 CMOS Emerging Technologies Workshop  
August 5-7, 2008  
Vancouver BC, Canada

# Outline

- **Applications Filed and Litigation**
- **What can be patented?**
- **What can not be patented?**
- **Court Cases**
- **Perpetual Motion Patent**
- **Shortest Claim?**

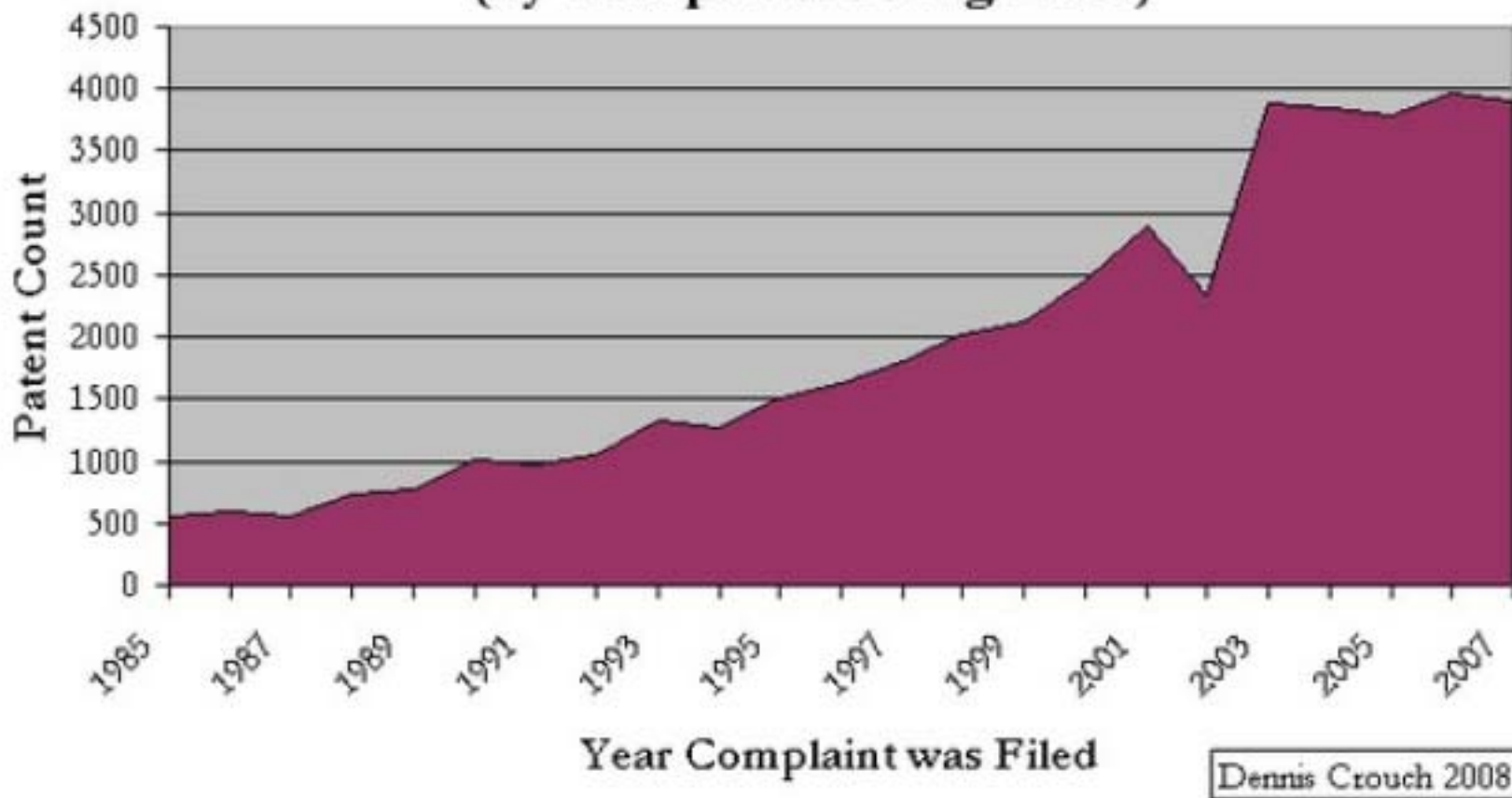
# Number of Applications Filed

U.S. Patent Applications, Utility and Design (1988 - 2007)



# Litigation Count

## Number of Patents in Litigation (by Complaint Filing Date)



# U.S. Patents Based on What?

## The United States Constitution:

- Article 1, Section 8:

The Congress shall have power to promote the Progress of Science and Useful Arts, by securing for limited Times to **Authors and Inventors** the **exclusive Right** to their respective Writings and Discoveries.

Written 9/17/1787

# U.S. Patent

Provides a **right to exclude others** from **making, using, selling, offering for sale or importing** the claimed invention in exchange for public disclosure of the technology described for a period of 20 years from the filing date.

***A patent does not ensure a right to practice one's own invention.***

# 35 U.S.C. 101: Inventions patentable

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.

Originally authored by Thomas Jefferson; 1793

Modified only once in 1952; Congress “art” -> “process”

# What Can not be Patented

## Abstract ideas

- mathematical algorithms

## Natural phenomena

- a new mineral discovered in the earth or a new plant found in the wild is not patentable subject matter

## Laws of nature

- Einstein could not patent his celebrated law that  $E=mc^2$ ; nor could Newton have patented the law of gravity.

“He who discovers a hitherto unknown phenomenon of nature has no claim to a monopoly of it which the law recognizes. **If there is to be invention from such a discovery, it must come from the application of the law of nature to a new and useful end.** *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948)”.

# Living Things - Chakrabarty

## U.S. Supreme Court

DIAMOND v. CHAKRABARTY, 447 U.S. 303 (1980)

447 U.S. 303 DIAMOND, COMMISSIONER OF PATENTS AND TRADEMARKS v. CHAKRABARTY.

Decided June 16, 1980.

Claim 1: A bacterium from the genus *Pseudomonas* containing therein at least two stable energy-generating plasmids, each of said plasmids providing a separate hydrocarbon degradative pathway.

“A patent examiner's rejection of the patent application's claims ... on the ground that **living things are not patentable subject matter under 101**”.

**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.

“... Congress had intended patentable subject matter to include anything under the sun that is made by man...”

“*Judged in this light, respondent's micro-organism plainly qualifies as patentable subject matter. His claim is ... to a nonnaturally occurring manufacture or composition of matter - a product of human ingenuity*”.

# A Computer **Process** - Diehr

## Direct digital control of rubber molding presses

Inventors: *Diehr and Lutton*

Assignee: Federal-Mogul Corporation (Southfield, MI)

Appl. No.: 05/602,463

Filed: August 6, 1975

1. A **method** of operating a rubber-molding press for precision molded compounds with the aid of a digital computer, comprising:  
**providing** said computer with a data base for said press including at least, natural logarithm conversion data ( $\ln$ ), the activation energy constant ( $C$ ) unique to each batch of said compound being molded, and a constant ( $x$ ) dependent upon the geometry of the particular mold of the press,  
**initiating** an interval timer in said computer upon the closure of the press for monitoring the elapsed time of said closure,  
constantly **determining** the temperature ( $Z$ ) of the mold at a location closely adjacent to the mold cavity in the press during molding,  
constantly **providing** the computer with the temperature ( $Z$ ),  
repetitively **calculating** in the computer, at frequent intervals during each cure, the Arrhenius equation for reaction time during the cure, which is  $\ln v = CZ + x$  where  $v$  is the total required cure time,  
repetitively **comparing** in the computer at said frequent intervals during the cure each said calculation of the total required cure time calculated with the Arrhenius equation and said elapsed time, and  
**opening** the press automatically when a said comparison indicates equivalence.

# A Computer Process - Diehr

## U.S. Supreme Court

DIAMOND v. DIEHR, 450 U.S. 175 (1981)

450 U.S. 175 DIAMOND, COMMISSIONER OF PATENTS AND TRADEMARKS v. DIEHR ET AL.  
CERTIORARI TO THE UNITED STATES COURT OF CUSTOMS AND PATENT APPEALS.

Decided March 3, 1981

“... the **process** of constantly measuring the temperature inside the mold and feeding the temperature measurements into a computer that repeatedly recalculates the cure time by use of the mathematical equation and then signals a device to open the press at the proper time”.

“... if the computer use incorporated in the process patent significantly lessens the possibility of "overcuring" or "undercuring," the **process** as a whole does not thereby become unpatentable subject matter”.

**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.

“... our present conclusion that a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula, **computer program**, or digital computer”.

# Business Method – State Street Bank

United States Patent 5,193,056

Boes March 9, 1993

SIGNATURE FINANCIAL GROUP, INC.

Data processing system for hub and spoke financial services configuration

1. A data processing system for managing a financial services configuration of a portfolio established as a partnership, each partner being one of a plurality of funds, comprising:

(a) computer processor means for processing data;

(b) storage means for storing data on a storage medium;

(c) first means for initializing the storage medium;

(d) second means for processing data regarding assets in the portfolio and each of the funds from a previous day and data regarding increases or decreases in each of the funds, assets and for allocating the percentage share that each fund holds in the portfolio;

(e) third means for processing data regarding daily incremental income, expenses, and net realized gain or loss for the portfolio and for allocating such data among each fund;

(f) fourth means for processing data regarding daily net unrealized gain or loss for the portfolio and for allocating such data among each fund; and

(g) fifth means for processing data regarding aggregate year-end income, expenses, and capital gain or loss for the portfolio and each of the funds.

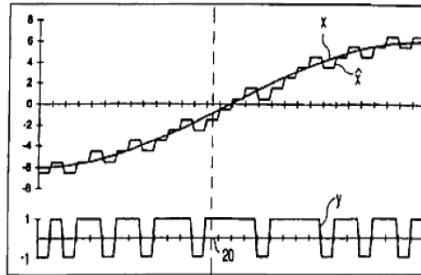
# Business Method – State Street Bank

United States Court of Appeals, Federal Circuit.  
STATE STREET BANK & TRUST CO., v. SIGNATURE FINANCIAL GROUP, INC.  
No. 96-1327. July 23, 1998.

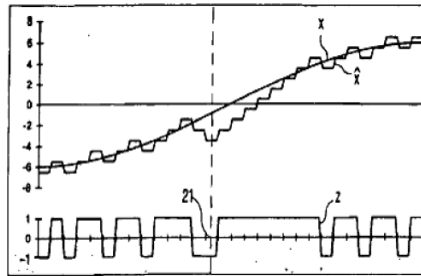
“... the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, ... it produces "a useful, concrete and tangible result" -a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades”.

# Signal Claim - Nuijten

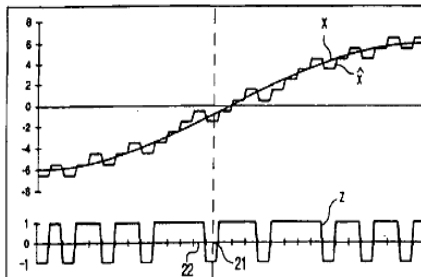
United States Court of Appeals for the Federal Circuit  
IN RE PETRUS A.C.M. NUIJTEN  
DECIDED: September 20, 2007



“delta modulation.”



“The watermark alters, if necessary, every hundredth value of the digital signal”.



“The signal is therefore increased, then decreased (where in the original it was decreased, then increased)”.

# Signal Claim - Nuijten

United States Court of Appeals for the Federal Circuit

IN RE PETRUS A.C.M. NUIJTEN

DECIDED: September 20, 2007

Rejected claim 14. **A signal with embedded supplemental data, the signal being encoded in accordance with a given encoding process and selected samples of the signal representing the supplemental data, and at least one of the samples preceding the selected samples is different from the sample corresponding to the given encoding process.**

“ [t]he signal . . . has no physical attributes and merely describes the abstract characteristics of the signal and, thus, it is considered an ‘abstract idea’ ” ... the Board determined that ... the claims were not directed to a **process** because they did not “**recite acts**”; not a **machine** because “the signal . . . **has no concrete tangible physical structure**”; and “**not composed of matter** and [therefore] clearly not a ‘**composition of matter**.’ ” ... “[t]he signal does not have any physical structure or substance and does not fit the definition of a ‘**manufacture**’ which requires a **tangible object**.”

**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.

# Business Method - Bilski

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte BERNARD L. BILSKI and RAND A. WARSAW

Appeal No. 2002-2257

HEARD: March 8, 2006

1. A method for managing the consumption risk costs of 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.

Apparatus missing

# Business Method - Bilski

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte BERNARD L. BILSKI and RAND A. WARSAW

Appeal No. 2002-2257

HEARD: March 8, 2006

“The invention relates to a method practiced by a commodity provider for managing (i.e., hedging) the consumption risks associated with a commodity sold at a fixed price. ... consumption risk (e.g., the need to use more or less energy than planned due to the weather) is said to be not currently managed in energy markets, which is the problem addressed by the invention...”

“The examiner's position is ... the invention is not implemented on a specific apparatus and merely manipulates [an] abstract idea and solves a purely mathematical problem ...”

“this Court has only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a 'different state or thing'”.

# Business Method - Comiskey

United States Court of Appeals for the Federal Circuit

2006-1286

IN RE STEPHEN W. COMISKEY

DECIDED: September 20, 2007

A **method** for mandatory arbitration resolution regarding one or more unilateral documents comprising the steps of:

- enabling** a person to enroll or register himself or herself and his or her one or more unilateral documents in a mandatory arbitration system;
- providing** arbitration language for insertion in the unilateral document wherein the arbitration language provides that any challenge to the unilateral document is to be presented to the mandatory arbitration system for binding arbitration;
- enabling** a complaintant to submit a request for arbitration resolution;
- conducting** arbitration resolution;
- providing** support to the arbitration; and
- determining** an award or a decision that is final and binding.

Apparatus missing

# Business Method - Comiskey

United States Court of Appeals for the Federal Circuit

2006-1286

IN RE STEPHEN W. COMISKEY

DECIDED: September 20, 2007

“... the mental process of resolving a legal dispute between two parties by the decision of a human arbitrator. They describe in essence “conducting arbitration resolution for [a] contested issue” and “determining an award or a decision for the contested issue” through a pre-determined “mandatory” arbitration system, and thus claim the use of mental processes to resolve a legal dispute”.

“It is thus clear that the present statute does not allow patents to be issued on particular business systems—such as a particular type of arbitration—that depend entirely on the use of mental processes. ... Thus, it is established that the application of human intelligence to the solution of practical problems is not in and of itself patentable”.

# Perpetual Motion Patents and Rejections

United States Court of Appeals for the Federal Circuit

2008-1076

(Serial No. 10/459,962)

IN RE DANNY EDWIN SPEAS

Speas claims as his invention “**any and all devices and systems which operate in such a manner as to violate the second law of thermodynamics as it is currently understood and accepted as inviolable by a majority of the worldwide scientific community,**” and “**any and all devices and systems which are adapted for converting thermal energy into other energy forms by contacting a heat source without the necessity of also contacting a thermal medium of lower temperature.**” ... Speas claims that because **this ferrofluid is moved and adds energy to the paddle wheel “without input into the system other than ambient thermal energy,” it is proof that the second law of thermodynamics is not inviolate – an object of the invention.**

**Lord Kelvin’s statement of second law:**

It is impossible to convert heat completely into work.

# Shortest Claim?

United States Patent Office

3,156,523

Patented Nov. 10, 1964

1

3,156,523

## ELEMENT 95 AND METHOD OF PRODUCING SAID ELEMENT

Glenn T. Seaborg, Chicago, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission  
No Drawing. Filed Aug. 23, 1946, Ser. No. 692,730  
12 Claims. (Cl. 23--14.5)

The present invention relates to a new transuranic element. More particularly it is concerned with the transuranic element having atomic number 95, now known as americium having the symbol Am, isotopes thereof, compositions containing the same, and methods of producing and purifying said element and compositions thereof.

The expression "element 95" is used throughout this

2

The fast neutrons are slowed down to approximately thermal energies by impacts with a moderator such as graphite or deuterium oxide, and the resulting slow neutrons (energies of 0-0.3 electron volt) are then absorbed by  $U^{235}$  to produce further fission and by  $U^{238}$  to produce  $U^{239}$  which decays through  $93^{239}$  to  $94^{239}$ . This self-sustaining chain reaction releases tremendous amounts of energy, primarily in the form of kinetic energy of the fission fragments. With such reactors the maximum reaction rate for steady state operation is determined by the maximum rate at which the heat of reaction can be removed. The rate of production of plutonium in such reactors may thus be equated, approximately, to the power output of the reactor, and amounts to about 0.9 gram of  $94^{239}$  per megawatt day when operating with sufficient bombardment and aging times to permit total decay of  $93^{239}$  to  $94^{239}$ .

### What is claimed is:

1. **Element 95.**
2. The isotope of element 95 having the mass number 241.
3. The isotope of element 95 having the mass number 242.
9. A salt of americium and a mineral acid.
10. **Americium dioxide.**
11. Americium trichloride.
12. Americium hydroxide.

# References

*Dennis Couch's web blog*

*2007 Patent and Trademark Damages Study, Aron Levko, Price WaterHouse Coopers, Crisis Management.*

*USPTO website*

*Patenting Software and Business methods in 2007, Erika Arner, Finnegan, Henderson, Farabow, garrett & Dunner, L.L.P., IPO 2008.*