

# Patents and Intellectual Property

Presented by: Michael Razavi

UNITED STATES  
PATENT AND TRADEMARK OFFICE



# Story of Dr. Eli Harari

- Electrical Engineer
- Inventor of flash-memory
- Founder of SanDisk



In 2014, he received the National Medal of Technology and Innovation "for invention and commercialization of flash storage technology to enable ubiquitous data in consumer electronics, mobile computing, and enterprise storage."

Harari is a member of the National Academy of Engineering and is named on over 180 U.S. patents.

# Questions to consider:

Enhance our Country's Innovation by providing Strong , Reliable  
and Predictable Intellectual Property Rights

- What are the types of Intellectual Property?
- Why apply for IP protection?
- Is there any down side to applying for IP?
- What are provisional and non-provisional patents?
- What are the costs going to be?
- How long does it take to get a patent?
- How long is my IP good for?
- Is my IP protected in the world?



# Questions to consider:

- What cannot be patented?
- Do I need a patent attorney?
- How can USPTO help me file my application?
- What is the examination process?
- What is patent infringement in the US?
- What is the enforcement process?
- What is my goal as an inventor?
- What resources are available to me?



# Overview of IP: The USPTO in 2017



USPTO Headquarters in Alexandria, VA

12,588 Total Employees at USPTO

\$3 billion Total Budget

8,147 Patent Examiners

647,388 Patent Applications filed

373,093 Patents issued

# Overview of IP: The USPTO in 2017



USPTO Headquarters in Alexandria, VA

549 Trademark Examining Attorneys

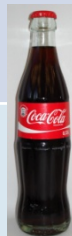
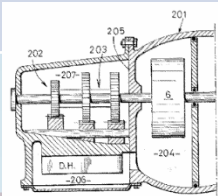
594,107 Trademark Applications

153,195 Certificates of Registration



# Overview of Intellectual Property

	<u>Utility Patent</u>	<u>Design Patent</u>	<u>Trade Secrets</u>	<u>Copyrights</u>	<u>Trademarks</u>
<b>What is protected</b>	Inventions – Process, machine, manufacture, or composition of matter	Ornamental characteristics embodied in, or applied to, an article of manufacture	Business-related information (formulas, techniques, information)	Art, in an all-encompassing sense	Marks that indicates the source or origin of goods or services
<b>Requirements</b>	Utility, novelty, and nonobviousness	Novelty and nonobviousness	Commercial value, generally not known, and reasonable efforts of secrecy	Original, authorship, and fixation in a tangible medium	Use in commerce and either distinctiveness or secondary meaning
<b>Protects Against...</b>	Making, selling, offering for sale, and importing	Making, selling, offering for sale, and importing	Stealing	Copies, performances, displays, and derivative works	Use of a mark that causes the likelihood of confusion
<b>Endures until...</b>	20 years from filing date	15 years from issuance	Publicly disclosed	The life of the author + 70 years	Abandoned
<b>Rights of Independent Third Party Creators</b>	None	None	Full	Full	None



# Overview of IP: The Mobile Phone

## Trademarks:

- Made by “Apple” (logo)
- Product “iPhone”
- Software “iOS”, “Safari”

## Patents:

- Semiconductor circuits
- Touch Screen
- Battery/Power Control
- Antenna
- Speaker
- Device Housing

## Copyrights:

- Software code
- Instruction manual
- Ringtone
- ...

## Trade secrets:

- ???

## Designs (some of them patented):

- Form of overall phone
- Placement of button & speaker
- Color pattern of trim
- Surface finish



© Apple



# Question Time!

Which of these words are protected as a trademark?

A: "Super Bowl"

B: "Band-Aid"

C: "Frisbee"

D: All the Above



All of them are owned as trademarks even though these words are commonly used.

"Super Bowl" is owned by NFL. "Band-Aid" is owned by Johnson & Johnson. "Frisbee" is owned by Wham-O.

# Overview of IP: Trademarks

## Common Law

- protection derived from use (™)

## State Registration

- registered with one or more U.S. states

## Federal Registration

- registered in the U.S. Patent and Trademark Office

**Protects against confusion as to the source of goods or services, not from competition that does not confuse customers**



# Question Time!

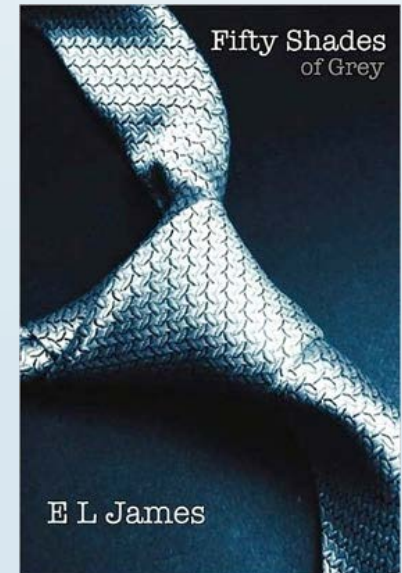
Which popular book was originally a fan fiction that had to be rewritten to fit with copyright standards?

A: Huckleberry Finn

B: Price and Prejudice and Zombies

C: Harry Potter

D: Fifty Shades of Grey



© Fifty Shades of Grey

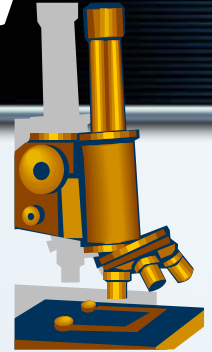
Originally called *Master of the Universe*, this popular book was originally a fan fiction for the book *Twilight* by Stephenie Meyer. The illegal work was revised later on with minor word substitutions to fulfill copyright laws.



# Overview of IP: Copyright

- Protects “original works of authorship” including literary, dramatic, musical, artistic and certain other intellectual works fixed in a tangible medium
- Library of Congress administers registration; USPTO advises the Executive branch on intellectual property issues including copyright
- © symbol represents an identification of the owner, not an indication that the copyright has been registered

# Overview of IP: Source of Authority



## Patents and Copyrights

- “The Congress shall have the 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” (U.S. Const., Art. I, Sec. 8, emphasis added)
- First patent statute and first copyright statute enacted in 1790 during the first Congress

## Trademarks

- “The Congress shall have the power... To **regulate commerce** with foreign nations, and among the several states”
- First federal statutes were enacted in 1870 and 1881



# Question Time!

Which company kept one of their secret recipes so secret that they accidentally misplaced it and recovered it after almost 40 years?

A: Kentucky Fried Chicken

B: McDonald's

C: Coca-Cola

D: Burger King

© McDonald's



In 2004, the Big Mac's special sauce recipe was thought to be lost until it was recovered from a California supplier who helped make the sauce 36 years ago.



# Overview of IP: Why Trade Secret?

## Trade Secret Basics:

- Protects commercially valuable proprietary information, e.g., formulas or business information that gives a competitive advantage
  - Customer lists
  - Product formulations
  - Search algorithms
- Trade Secrets are not generally known and must be subject to reasonable efforts to preserve confidentiality

## Common Ways to Lose a Trade Secret:

- Failure to take adequate steps to prevent disclosure
- Owner or owner-authorized disclosure
- Reverse engineering
- Independent development



# Question Time!

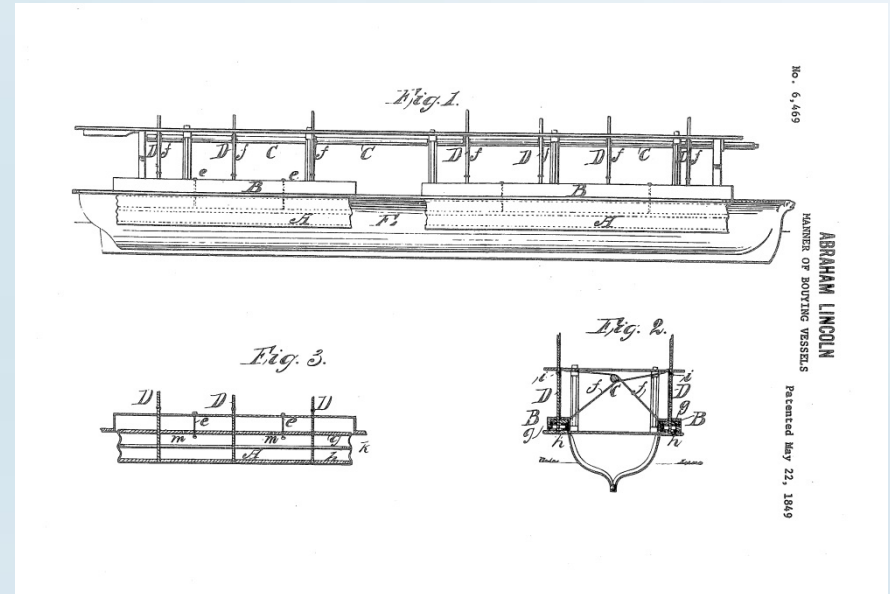
Who is the first and only U.S. President to have been awarded a patent?

A: George Washington

B: James Madison

C: Abraham Lincoln

D: Theodore Roosevelt



Abraham Lincoln's "Buoying Vessels Over Shoals" invention allows boats to go over shoals or obstacles in a river through the use of inflatable bellows.



# Overview of IP: Patents

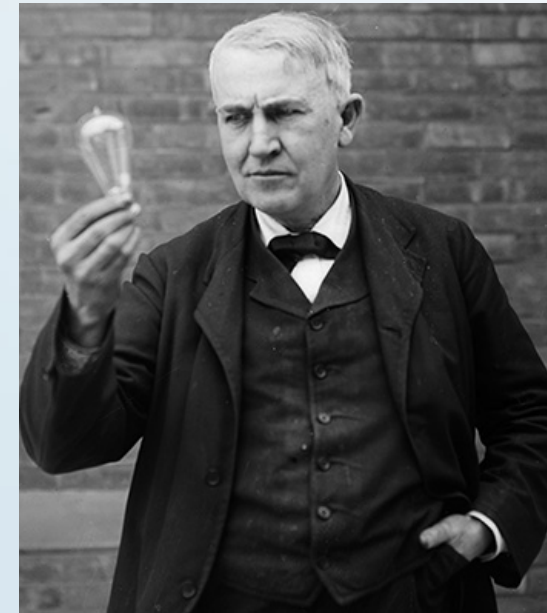
- Right to *exclude others* from making, using, selling, offering for sale or importing the claimed invention
- Right conditional on inventor applying for, and USPTO issuing, a patent
- Strict time limits to apply for a patent
- Limited term
- Territorial: protection only in territory that granted patent; **NO world-wide patent**

# Overview of IP: Patents Quid Pro Quo



Time-Limited  
Monopoly

Discloses  
Invention



# Overview of IP: Why Get a Patent?

- A patent can be
  - Used to gain entry to a market
  - Used to exclude others from a market
  - Used as a marketing tool to promote unique aspects of a product
  - Sold or licensed, like other property

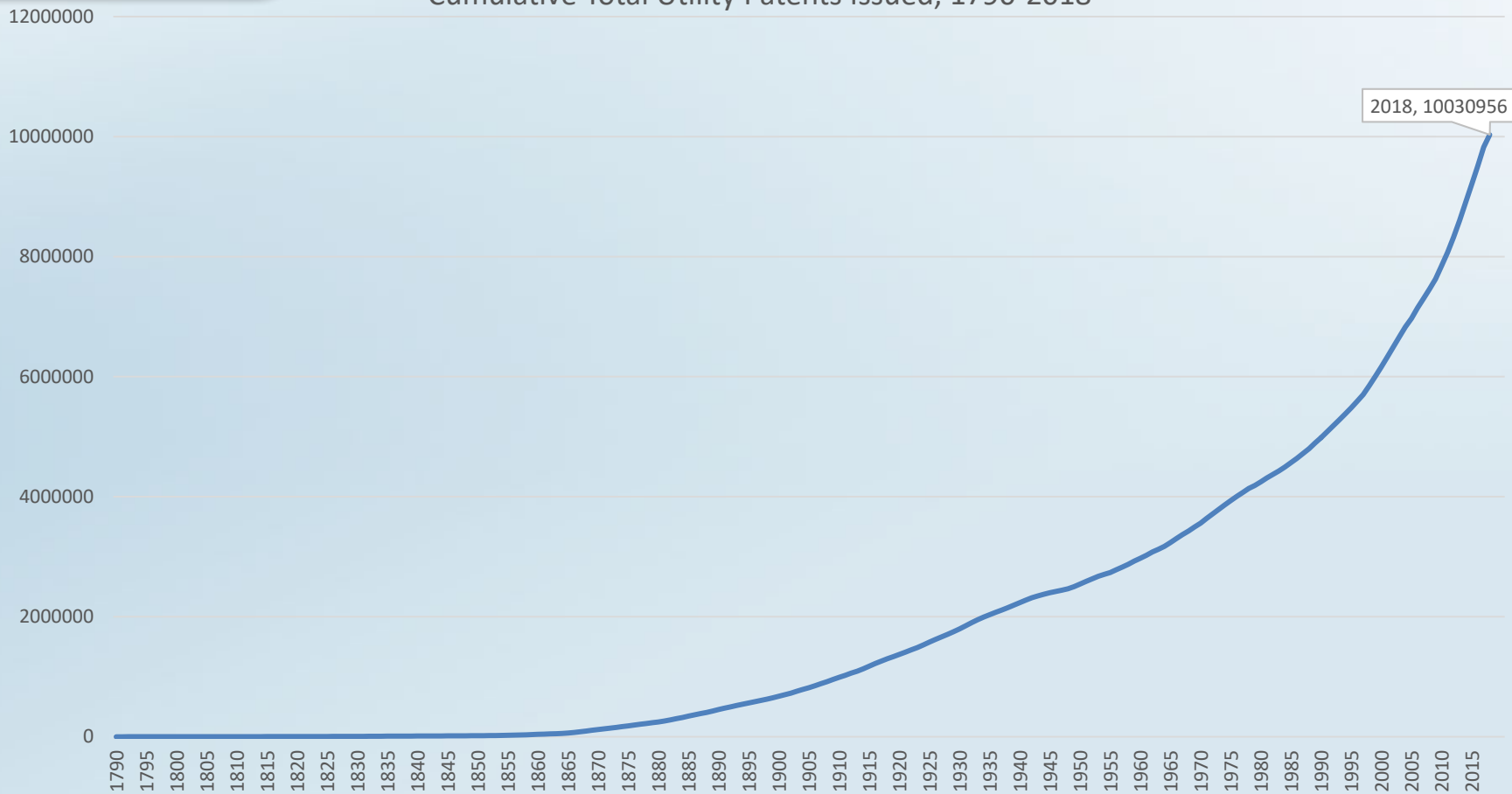


# What is patentable?





Cumulative Total Utility Patents Issued, 1790-2018



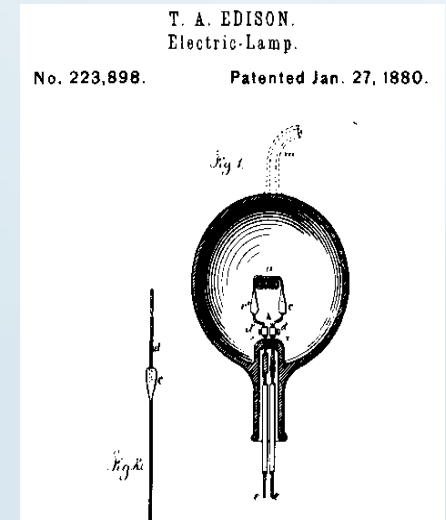
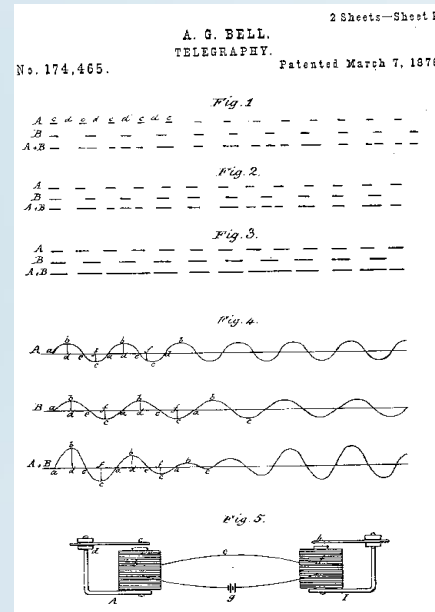
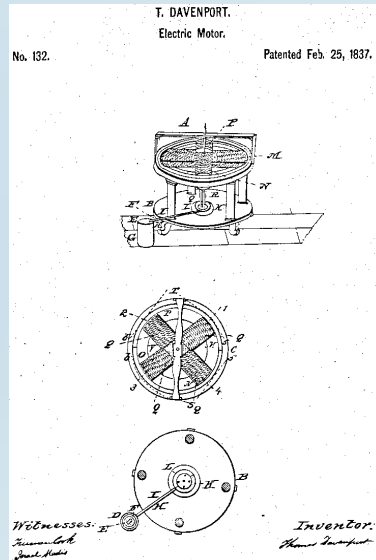
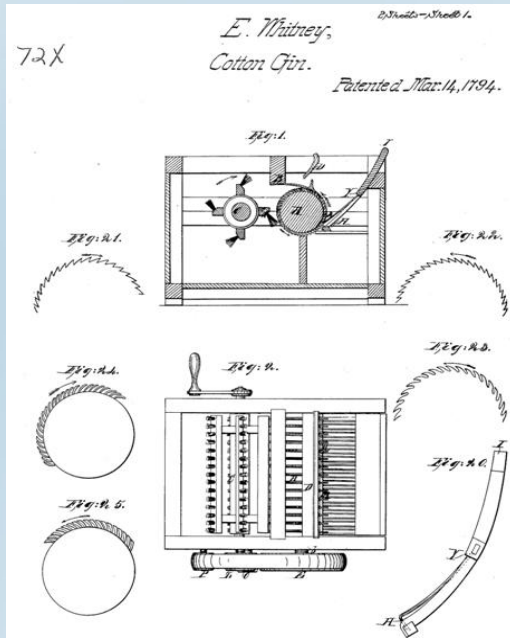
# 1790s-1900s

1794: US X72 I1  
Eli Whitney  
Cotton Gin

1837: US 132 A  
Thomas Davenport  
Electric Motor

1876: US 174465 A  
Alexander Bell  
Telephone

1880: US 223898 A  
Thomas Edison  
Lightbulb



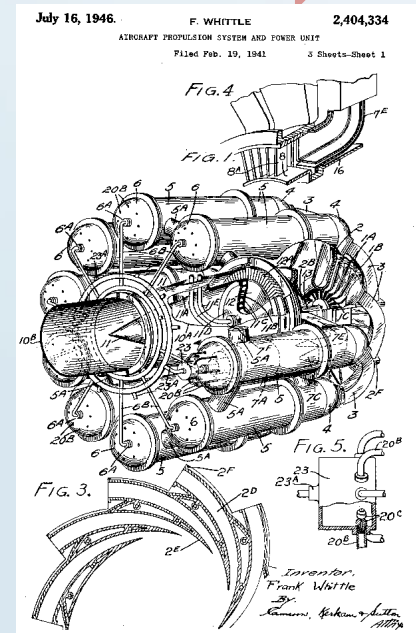
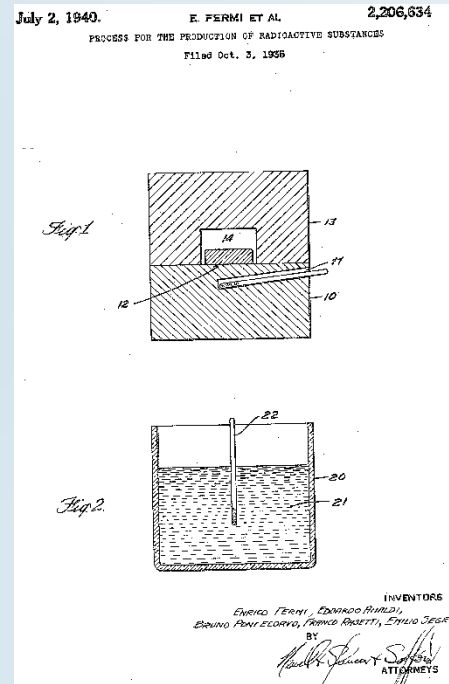
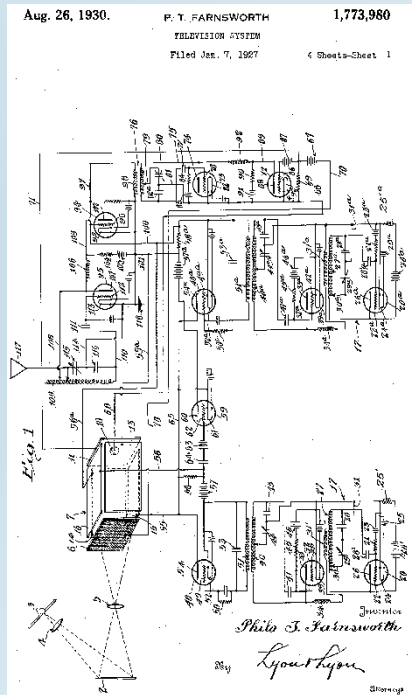
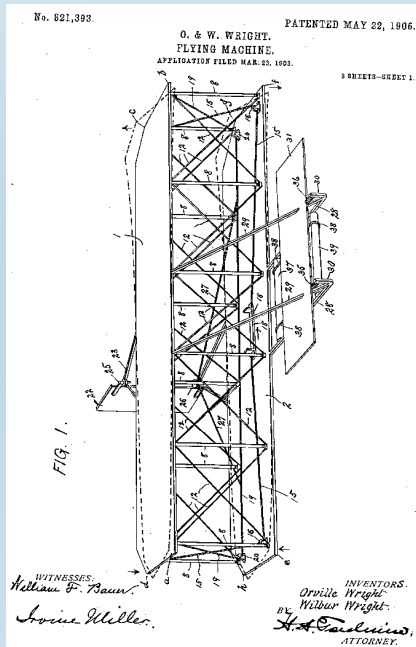
# 1900s-1950s

1906: US 821393 A  
Wright Brothers  
Airplane

1930: US 1773980 A  
Philo T. Farnsworth  
Television

1940: US 2206634 A  
Enrico Fermi, Edoardo Amaldi, Bruno Pontecorvo, Franco Rasetti, Emilio Segre  
Radioactive Isotope Production

1946: US 2404334 A  
Frank Whittle  
Jet Engine



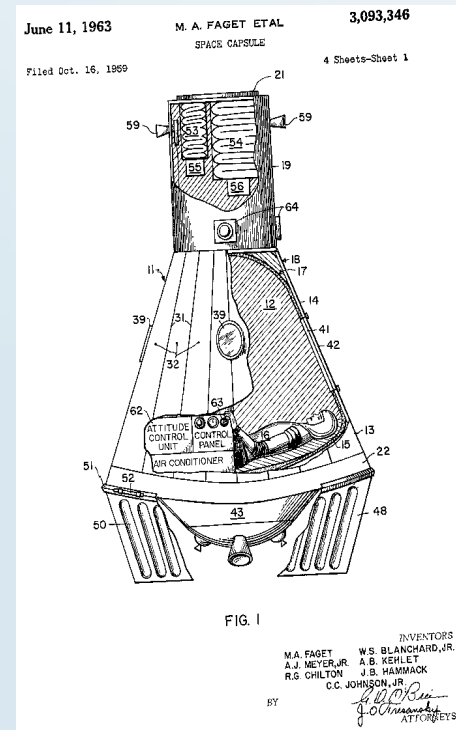
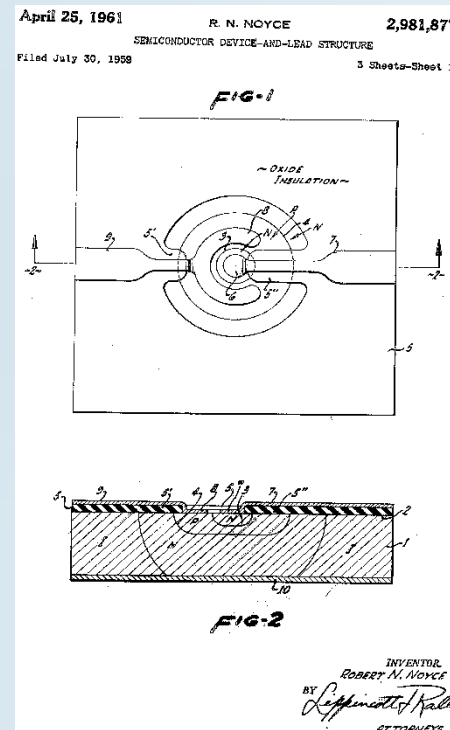
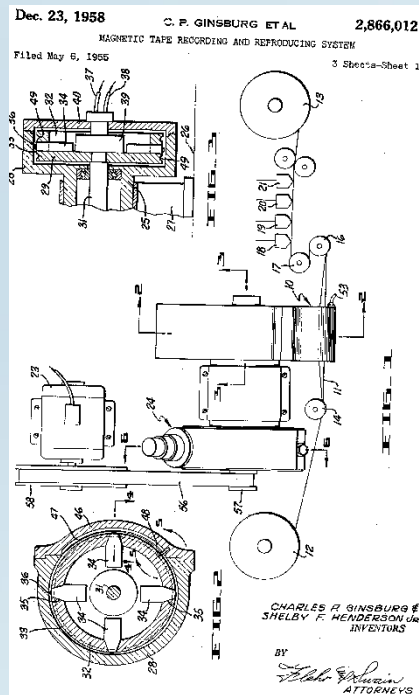
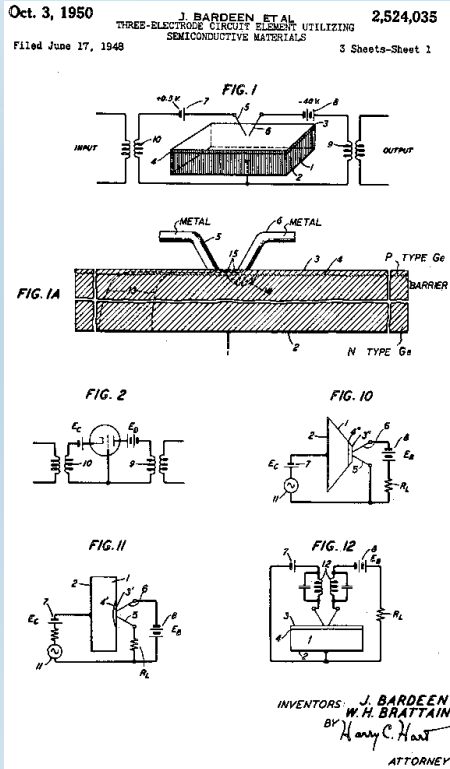
# 1950s-1970s

1950: US 2524035 A  
 John Bardeen, Walter H. Brattain  
 Transistor

1958: US 2866012 A  
 Charles P. Ginsburg, Shelby F. Henderson  
 Video Tape Recorder

1961: US 2981877 A  
 Robert N. Noyce  
 Semiconductor

1963 US 3093346 A  
 Maxime A. Faget, Andre J. Meyer, Jr., Robert G. Chilton, William S. Blanchard, Jr., Alan B. Kehlet, Jerome B. Hammack, Caldwell C. Johnson, Jr.  
 Manned Space Capsule



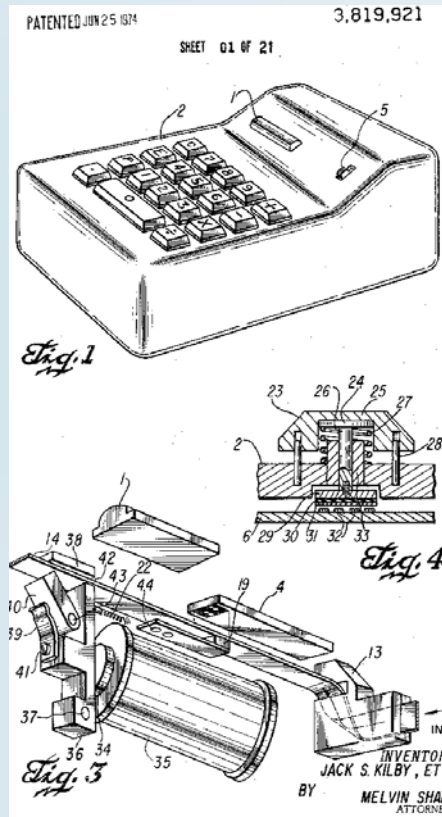
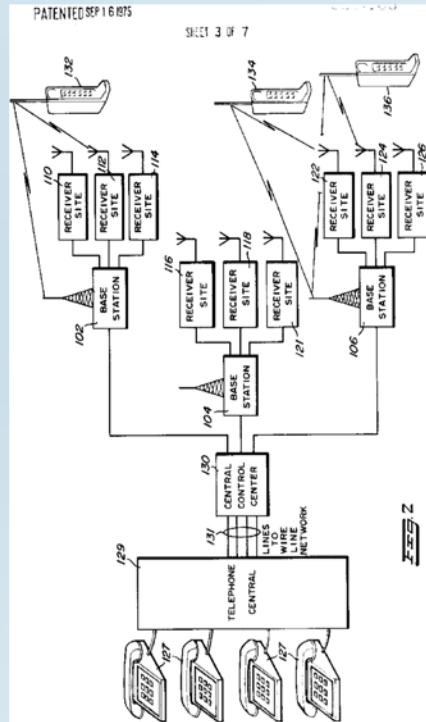
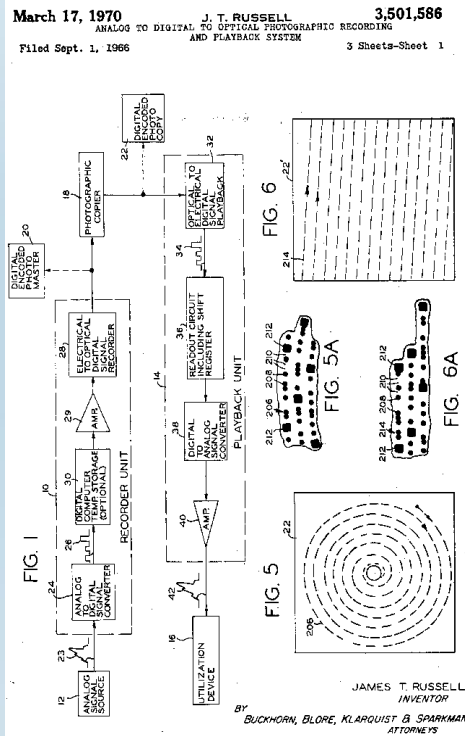
# 1970s-Present

1970: US 3501586 A  
James T. Russell  
CD-ROM

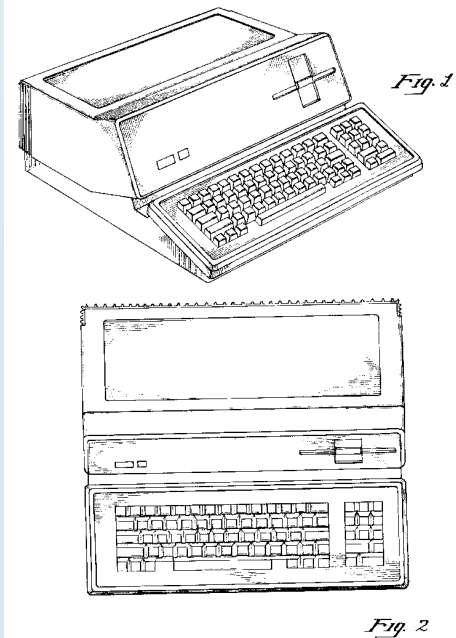
1973: US 3906166 A  
Martin Cooper, Richard W. Dronsuth, Albert J. Leitch, Jr. Charles N. Lynk,  
James J. Mikulski, John F. Mitchell, Roy A. Richardson, John H. Sangster  
Mobile Phone

1974: US 3819921 A  
J. Kilby, J. Meryman, Tassel J. Van  
Handheld Calculator

1983: US D268584 S  
Steven P. Jobs, Jerrold C. Manock, Dean A. Hovey, David M. Kelley  
Personal Computer



U.S. Patent Apr. 12, 1983 Sheet 1 of 3 Des. 268,584



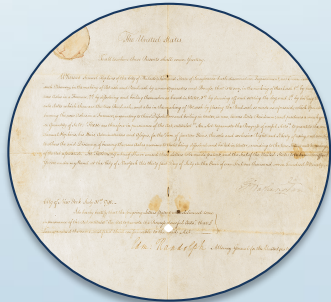
# 10 Million Patents

On June 19, the U.S. Patent and Trademark Office issued [patent number 10 million](#)—a remarkable achievement for the United States of America and our agency.

More than just a number, this patent represents one of ten million steps on a continuum of human accomplishment launched when our Founding Fathers provided for intellectual property protection in Article 1, Section 8, Clause 8 of our Constitution.



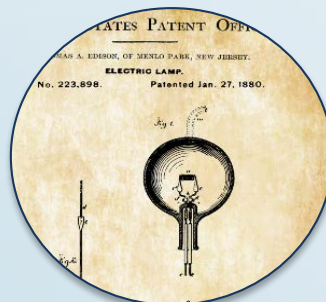
# NOTABLE PATENTS IN AMERICAN HISTORY



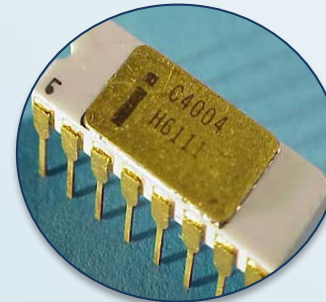
**1790:** First US Patent Issued to Samuel Hopkins



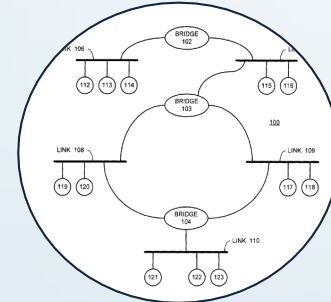
**1849:** Patent Issued to Future President Abraham Lincoln



**1880:** Patent Issued to Thomas Edison for the Lightbulb

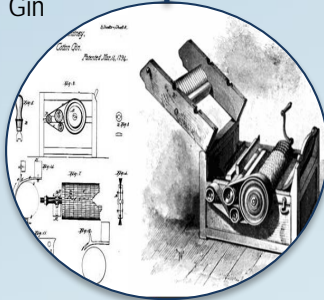


**1974:** Patent Issued to Ted Hoff for the Microprocessor

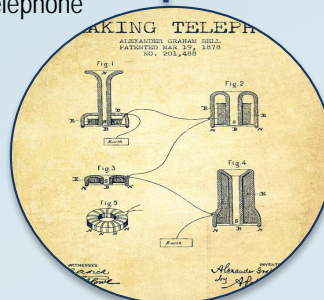


**2008:** Patent Issued to Radia Perlman for internet STP

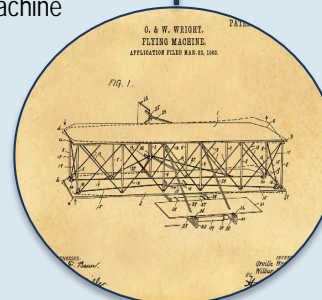
**1794:** Patent Issued to Eli Whitney for the Cotton Gin



**1876:** Patent Issued to Alexander Bell for the Speaking Telephone



**1906:** Patent Issued to the Wright Brothers for a Flying Machine



**1980:** Patent Issued to the Cohen and Boyer for Recombinant DNA Techniques



# Basic Fees

Provisional Application Filing Fee:\$280/\$140/\$70



## Utility

- Basic filing fee
  - \$300/\$150/\$75
- Search Fee
  - \$660/\$330/\$165
- Examination fee
  - \$760/\$380/\$190
- Issue\$
  - \$1000/\$500/\$250

## Design

- Basic filing fee
  - \$ 200/\$100/\$50
- Search fee
  - \$160/\$80/\$40
- Examination
  - \$600/\$00/\$150
- Issue
  - \$700/\$350/\$175

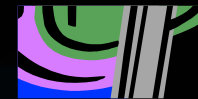
# Maintenance fees

- Due at 3, 7, and 11 year anniversary
- With six month window to pay
- Additional six month grace period
- Pay online, via fax or U.S. mail
- All major credit cards, EFT, check, money order, deposit account
- Check status at

[www.uspto.gov/patents/process/maintain.jsp](http://www.uspto.gov/patents/process/maintain.jsp)



# Resources



- Comprehensive Information and Training Material for First Inventor to File:  
[http://www.uspto.gov/aia\\_implementation/patents.jsp#heading-10](http://www.uspto.gov/aia_implementation/patents.jsp#heading-10)
- Inventor Resources: <http://www.uspto.gov/inventors/index.jsp>

## Other Resources:

- Education for the Public (including IP Awareness Assessment Tool)
- Pro Bono
- Law School Clinical Program
- Pro Se Assistance
- Regional Offices
- Scam Prevention

# Satellite Offices

Dallas-  
Fort Worth



Denver



Detroit



Silicon Valley

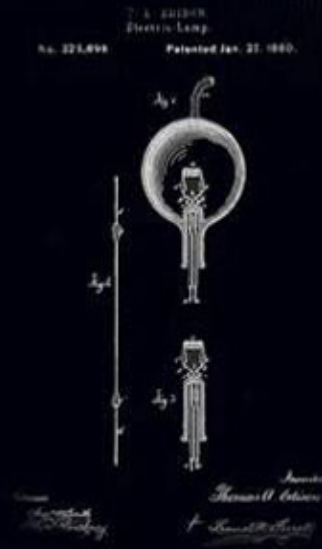






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**Thank You!**  
**Michael.Razavi@uspto.gov**



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