

# Intellectual Property: Patents, Copyrights, Trademarks and Trade Secrets

Dr. Hodge Jenkins  
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# Overview

- Patents
- Copyrights
- Trademarks
- Trade secrets
  - What are these?
  - What do they cost?
- Focus on Patents
  - Elements of a patent
  - Inventor's notebook
- Overlapping protection

# Types of Property

- Real
  - *Land*
- Personal
  - *Cars, jewelry, clothing*
- Easements
  - *Non-corporal interest in real property*
    - *Railroads, utilities*
- **Intellectual**
  - *Patents, copyrights, and trademarks*

# Patents: What are they?

- Legal document that grants inventors the right to exclude or prevent others from "making, using, offering for sale, or selling" the invention in the country where the patent is filed and granted.
- In the USA, the US Patent and Trademark Office grants US patents.

# Patents :

## Intellectual Protection

- Patent is a legal document that provides protection to inventor on inventions and industrial designs (and even **live** plants).
- A patent gives the **inventor** the exclusive right to exclude others from making, using, offering for sale or selling the invention.
- Different basic types of patents have different terms:
  - Utility patents have a 20-year term.
  - Design patents have a 14-year term.

# Three Types of Patents

- **Utility Patents** - The most common type of patent, utility patents are issued to inventors of new devices and processes or improvements to existing devices or processes. Most utility patents are issued for inventions that improve existing devices.
- **Design Patents** - are issued to inventors of "new, original, and ornamental designs" of existing devices or "articles of manufacture." For example, if you design an ornamental telephone that in no way improves or changes the basic function of the telephone, you might seek a design patent.
- **Plant Patents** - are issued to persons who invent or discover, and are able to reproduce, any distinct and new variety of plant. The inventor of a blue rose, for example, would definitely seek a plant patent.
- **(Provisional)** - Valid for only 1 year after filing date, contains a minimum of a specification, can have drawings and claims. Must file utility patent within one year, or lose earlier filing date.

# Copyright© :

## Intellectual Property Protection

- Copyright protection is afforded to authors of “original works of authorship,” including literary, dramatic, musical, artistic and certain other intellectual works.
- A copyright gives the owner the exclusive right to do certain things, e.g., copy the work, adapt the work and distribute copies of the work.
- Copyright terms (for works created on or after January 1, 1978).
  - Individual: life **+ 70 years**
  - Work made for hire: **95 years** from publication or **120 years** from creation

# Categories of Protected Works

- Literary works
- Musical works
- Sound recordings
- Dramatic works
- Choreographic works
- Pictorial, graphic and sculptural works
- Motion pictures
- Architectural works
- Software

# Securing Protection

- Copyright protection is secured **automatically** upon creation (fixation). ©
- No publication or registration is required.
- To register.
  - File an application;
  - Pay a nominal filing fee (\$30); and
  - Deposit copies of the work at the Copyright Office.

# Why register your copyright?

- As a U.S. copyright owner, you must register in order to be able to **bring suit in federal court for infringement**.
- Pre-requisite for obtaining statutory damages and attorney's fees.
- Easier to **enforce your copyrights in foreign courts**.
- Easier to **license work, collect royalties, and enforce your rights outside of court**.

# Trademarks: TM, ®

## Intellectual Protection

- Trademark protection is afforded to words or designs that are used to distinguish the source of the goods or services from the goods or services of others.
- A trademark gives the owner the right to prevent others from using a confusing, similar mark.
- Trademark rights may continue indefinitely.



# What is the difference between <sup>TM</sup>, <sup>SM</sup> and ®

- <sup>TM</sup> means trademark
  - Hasn't been registered
- <sup>SM</sup> means service mark
  - Same as <sup>TM</sup>, but used for a service
- ® means registered trademark
  - Requires registration

# Cost of US Trademark Application

- \$325 -375 for initial application at USPTO
- No refund if not granted
- Must renew within every 10 years at \$400
- Trademarks are renewable indefinitely  
as long as the mark is being used and not  
become associated as a general product  
name (e.g., Kleenex).

# General Use/Public Domain TRADEMARK GRAVEYARD

- ASPIRIN
- CELLOPHANE
- CELLULOID
- CORN FLAKES
- CUBE STEAK
- DRY ICE
- ESCALATOR
- LANOLIN
- MALTED MILK
- MILK OF MAGNESIA
- MIMEOGRAPH
- MINERAL OIL
- POCKET BOOK
- SHREDDED WHEAT
- THERMOS
- TRAMPOLINE
- YO-YO

# Trade Secrets:

- A **Trade Secret** is a formula, practice, process, design, instrument, pattern, or compilation of information which is not generally known or reasonably ascertainable, by which a business can obtain an economic advantage over competitors or customers.
- **Confidential Information**
- A Trade Secret can last **forever**.

# Trade Secrets

- Examples: formulae, devices, manufacturing processes, customer lists & preferences
- Uses: good alternative to a patent if invention cannot be reverse-engineered
  - [i.e. recipe & formulation of KFC's 7 herbs and spices, or the formula for Coca-Cola]

# Trade Secrets

- Requires all exposed employees to keep information confidential
- Limit access of any non-employee to see the trade secret
  - E.g., Special processes in bearing manufacturing required placing curtains along paths in a factory so external repair persons will not see the process.
- No fees associated : FREE

# Patent or Trade Secret?

- **Patents**: New design which can be observed and copied.
- **Trade Secret**: Advantage that cannot be determined from an artifact.
- *Example: Optical fiber*
  - Refraction index profile of core:  
**Patented**
  - Process to reduce polarization mode dispersion:  
**Trade secret**

# Patents

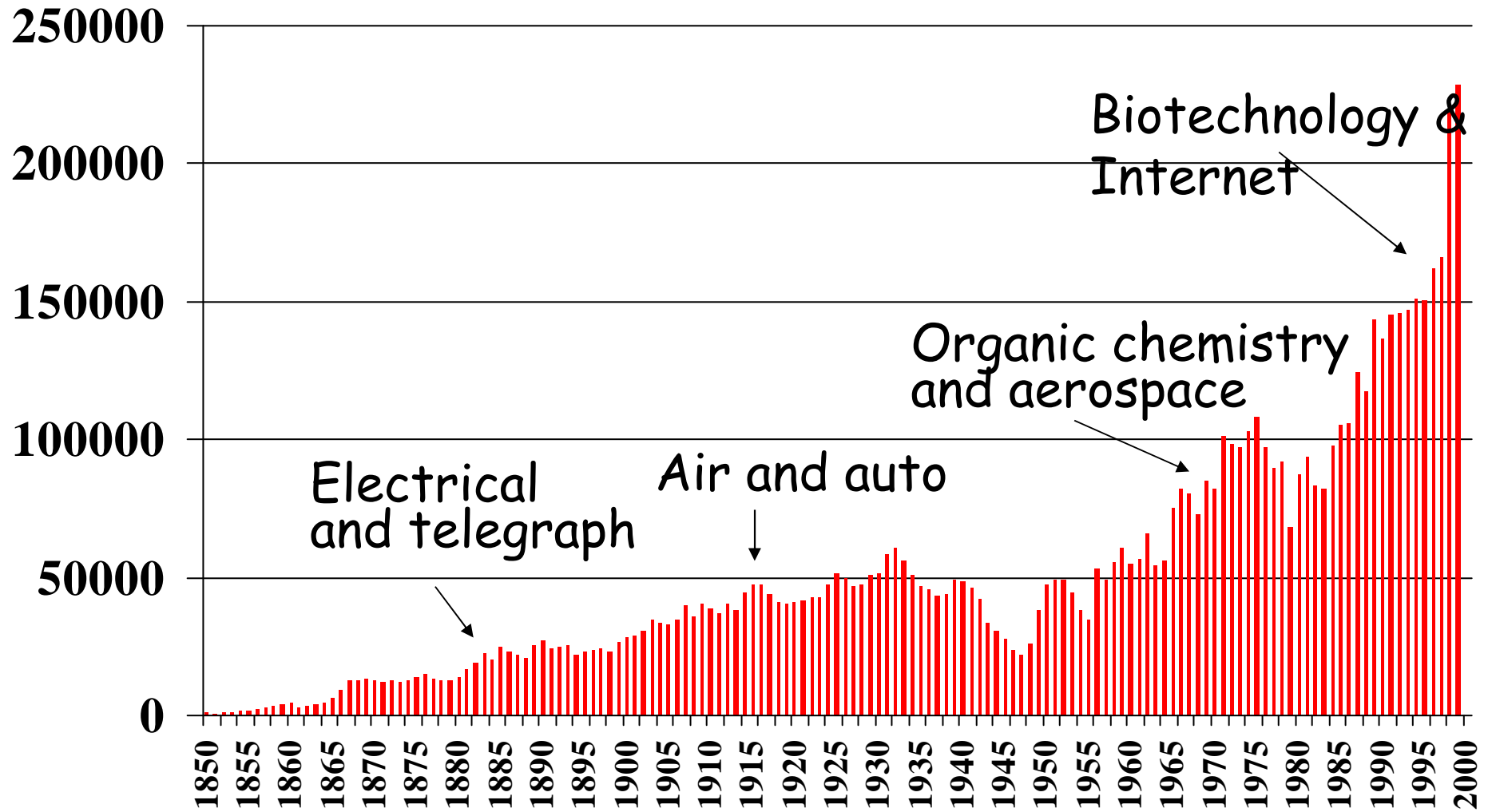
- Defined function of USPTO is in the US Constitution. Really!
- History of patents in the US
- What can be patented
- What is in a patent
- How to prepare for a patent

# US Patent Activity – Value to Industry vs. Individual

- **Individuals and Industry**
  - In 1850 – most patents owned by private inventors
  - Today only about 12% by private inventors  
85% owned by corporations
- **US Patent System is Global – Highly Competitive**
  - Only about 50% of US patents are granted to US entities. Foreign companies have many US patents.

# U.S. Patent Activity (Utility Patents/year)

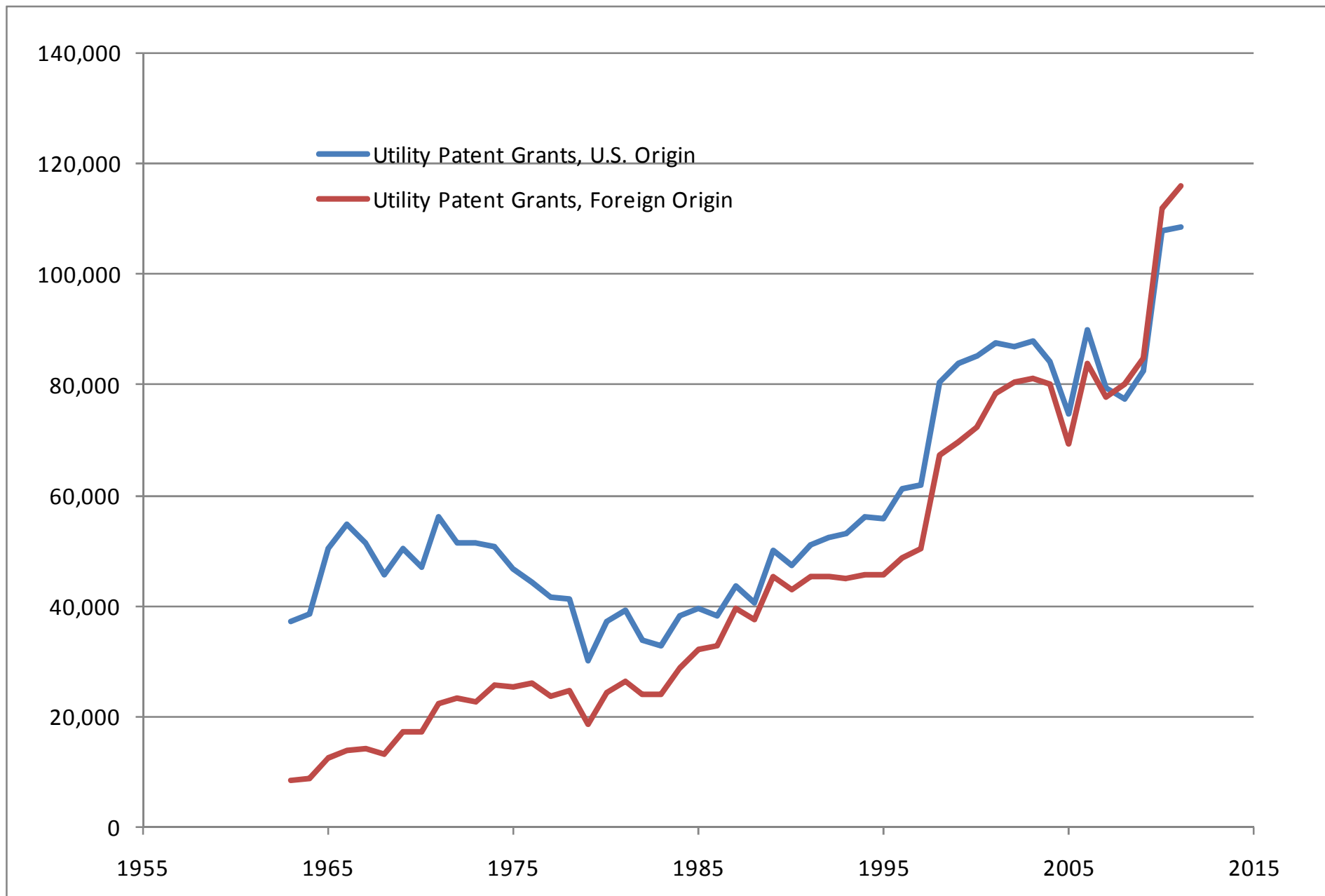
(Source:  
USPTO)



# Patents outside the USA

- Patent applications must be filed in each country to receive patent protection in foreign countries
- Half of US patents are granted to foreign nationals to protect their inventions in this country

# U.S. Patent Grants (Utility Patents/year)



# What can or cannot be patented (USA)

- The patent law specifies that the subject matter must be "useful."
  - The term "useful" refers to will **operate** to perform the intended purpose.
- **Laws of nature**, physical phenomena, and abstract ideas are not patentable subject matter.
- Patent cannot be obtained upon a **mere idea** or suggestion. A complete description of the actual machine is required.
- Inventions useful solely in **an atomic weapon** cannot be patented.

# Patent samples: Utility Patents

United States Patent [19]  
Kasha

[11] 4,016,793  
[45] Apr. 12, 1977

- [54] BRIDGE FOR STRINGED MUSICAL INSTRUMENT
- [75] Inventor: Michael Kasha, Tallahassee, Fla.
- [73] Assignee: Norlin Music, Inc., Lincolnwood, Ill.
- [22] Filed: May 12, 1975
- [21] Appl. No.: 576,282
- [52] U.S. Cl. .... 84/307; 84/267
- [51] Int. Cl.<sup>2</sup> ..... G10D 3/04
- [58] Field of Search .... 84/209, 267, 298, 307-309
- [56] **References Cited**

UNITED STATES PATENTS

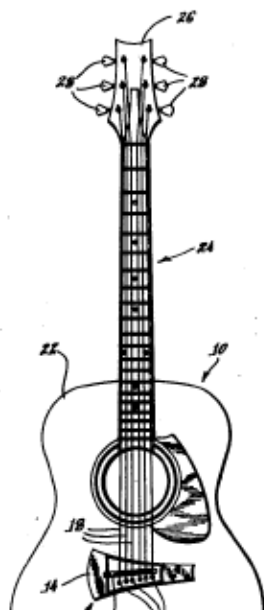
2,190,475	2/1940	Gretsch	84/298
3,443,465	5/1969	Kasha	84/307 X
3,474,697	10/1969	Kaman	84/267
3,494,239	2/1970	Kasha	84/309 X

Primary Examiner—John Gonzales

[57] **ABSTRACT**

This invention relates to an improved bridge for stringed musical instruments which bridge is shaped, for preferred embodiments, so as to provide maximum, and substantially uniform, mechanical compliance between the bridge and the soundboard of the instrument over the full frequency range of the instrument while still being wide enough at each point along its length to effectively couple the frequency of vibrations to be driven by the bridge at that point. For alternative embodiments, the shape of the bridge is altered at one or more selected points along its length, altering the mechanical compliance at these points in a predetermined manner. These variations cause the instruments to have a predetermined frequency response characteristic.

7 Claims, 7 Drawing Figures



United States Patent [19]  
Van Halen

[11] Patent Number: 4,656,917  
[45] Date of Patent: Apr. 14, 1987

- [54] MUSICAL INSTRUMENT SUPPORT
- [76] Inventor: Edward L. Van Halen, 1900 Ave. of Stars #1780, Los Angeles, Calif. 90067
- [21] Appl. No.: 760,598
- [22] Filed: Jul. 30, 1985
- [51] Int. Cl.<sup>4</sup> ..... G10G 5/00
- [52] U.S. Cl. .... 84/327; 224/910
- [58] Field of Search ..... 84/327, 453, 267, 280, 84/411, 421; 224/910; 248/444, 371, 443

[56] **References Cited**  
U.S. PATENT DOCUMENTS

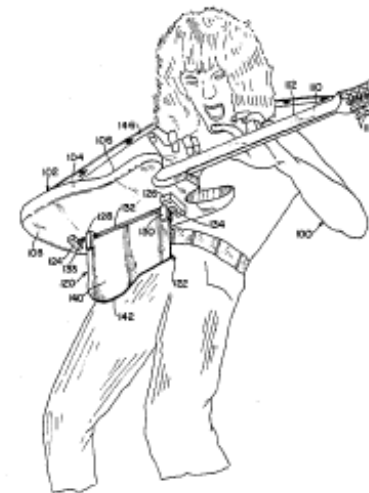
1,285,802	11/1918	Russell	
1,945,162	1/1934	Rasmussen	
2,814,229	11/1957	Vaccaro et al.	
3,371,570	3/1968	Lester	
3,055,461	5/1976	Toia	
3,979,993	9/1976	Proctor	84/453
4,213,369	7/1980	Swartwout	

Primary Examiner—S. J. Witkowski  
Assistant Examiner—David Warren  
Attorney, Agent, or Firm—Lerner, David, Littenberg, Krumholz & Mentlik

[57] **ABSTRACT**

A supporting device for stringed musical instruments, for example, guitars, banjos, mandolins and the like, is disclosed. The supporting device is constructed and arranged for supporting the musical instrument on the player to permit total freedom of the player's hands to play the instrument in a completely new way, thus allowing the player to create new techniques and sounds previously unknown to any player. The device, when in its operational position, has a plate which rests upon the player's leg leaving both hands free to explore the musical instrument as never before. Because the musical instrument is arranged perpendicular to the player's body, the player has maximum visibility of the instrument's entire playing surface.

22 Claims, 4 Drawing Figures



# Patent Contents Front Page

- U.S. No. 5,481,983
- Title: "Magnetic Sweeper Apparatus and Method"
- Filing Date vs. Issue Date
- Inventor and Assignee = Owner
- Related Application Data
- Technology Class Codes
- Prior Art References Cited
- Abstract
- Front Page Illustration

# Patent Details: Specification

- Specification:
  - Description
  - List Prior Art
  - Drawings
  - Preferred Embodiment
  - Other Embodiments
- Claims

# Patent Details: Claims

- Claims of a patent are the most significant for assessing whether a 3rd party's services, product designs, systems, functionality, components or improvements may infringe the patent holder's legal rights
- Specification must conclude with a claim or claims pointing out and distinctly claiming the subject matter which the applicant regards as the invention.

# Why would I want a patent?

- Protect your design from being copied/used/sold by competitor
  - Key advantage in a product or process
  - Grow/keep market
- Create wealth
  - Make the design into a product
  - Sell design to someone else for profit/royalty
- Weapon against law suits on patent infringement
  - Google bought Motorola wireless division

# Estimated of Costs of a US patent

- Application costs \$4,000 - \$8,000+
- US PTO Filing Fees \$330 + \$220 + \$390
- US PTO Issue Fee \$1550
- US PTO Maintenance Fees
  - 3.5 year \$980
  - 7.5 year \$2480
  - 11.5 year \$4110
- Thus w/o litigation total estimate is **\$14,060 to \$18,060.**
  - (Small entity fees are half USPTO fees listed).

# Who gets a patent if many apply?

- First to file or first to invent?
  - USPTO was different from Patent Offices in most countries
- USPTO : prior 1/25/2012 First to invent,
  - Who first devised it;
  - Who got the invention working first
- \* 9/16/2011 Leahy-Smith America Invents Act transitions USA to First to file
  - Reducing litigation on deciding who invented
  - Unclear are the constitutionality and transition period
  - Similar to other nations

# Keeping an Invention Notebook

Legal importance of the notebook

## Evidence

- In the event of an infringement suit or an interference, a properly annotated notebook is good evidence of the dates of invention & the substance of an invention.
- Proof of no misconduct on part of inventor or inventor's employer
- Pre-date prior art—swear behind a reference
- **Determination of inventorship : to dispute an existing patent.**

# How to Keep an Invention Notebook

- Keep contents of notebook a secret  
(trade secrets must be subject to reasonable efforts to keep info secret)
- Record/limit access to notebook
- Limit access to those with need-to-know
- Non-disclosure agreement
- Have key invention ideas witnessed and dated

# What to Write in an Invention Notebook

- Equipment used, illustrations of set-up
- Theory underlying experiments
- Ideas for additional experiments
- Potential new product uses
- Why—all of the above are evidence of conception

# Inventorship:

## Conception

- an invention is “conceived” when the inventor thinks of the solution [i.e. the invention] to a problem and discloses the solution
- an idea is properly “disclosed” when a person of ordinary skill in the art can practice [i.e. build, use, etc] the invention

# Things Inventors do that Jeopardize Ability to Obtain Patent: 1 year limit to patent if....

## Actions before **Critical Date**

Definition—the date exactly one year before the filing date of the patent application

- The Law—35 U.S.C. §102(b)—the “statutory bar” or the “on-sale bar”

If the invention was:

- the **subject of printed publication** anywhere in the world OR
- **on sale** or **in use** in the US
- before the critical date, **you cannot get a patent**

# Things Inventors do that Jeopardize Ability to Obtain Patent

## What does “printed publication” mean?

- Anything that is catalogued—doesn't have to be paper, can be computer disk, program, website
- Doctoral thesis in a library's card catalog
- Advertisements for the invention [even ones you don't authorize]
- Instruction manual for invention
- A published picture

# Things Inventors do that Jeopardize Ability to Obtain Patent

## What does “on-sale” mean?

- You literally sold the invention
- You offered to sell the invention [i.e. submitted a contract to another party to sell the invention]
- You advertise the invention

# Things Inventors do that Jeopardize Ability to Obtain Patent

## What does “in use” mean?

- It's already in the public domain [i.e. can't patent the Internet now]
- You showed your invention at a trade show
- You showed your invention at a senior design PDR or CDR that was open to the public where the public was not asked to sign a non-disclosure agreement

# Things Inventors do that Jeopardize Ability to Obtain Patent

## Protections against 102(b) issues

- The provisional patent application
- Confidentiality / Non-disclosure agreements

# Inventorship: Claims

Because inventorship depends upon what is **claimed** in a patent, one cannot technically determine inventorship until the patent is completely drafted.

- Example: Moe, Larry and Curly develop a new stapler. Moe developed a feature that makes the stapler walk. Larry developed a feature that makes the stapler talk, and Curly developed a feature that makes the stapler type. They file a patent for their new stapler. However, the only features that appear in the claims of the patent are the talking and the typing. Hence, only Larry and Curly are inventors. Moe is not an inventor.

# Inventorship & Ownership

- Inventor is presumed to be the owner of a patent
- Joint inventors by default are co-equal owners of the patent, even if they made unequal contributions to the inventive subject matter.
- **Employers** usually require engineers to **assign all inventions** made for the company to the company as a condition of employment
- If you want to invent something that you also own in the same field of your employment, **keep the inventive process entirely separate from employment** [*i.e. do not use work computer, work copier, work equipment, etc.*]. If not, by default, employer has shop right [non-exclusive, royalty-free license] in the invention. Some employers will require you to contract an ownership interest.

# Patent Web Resources

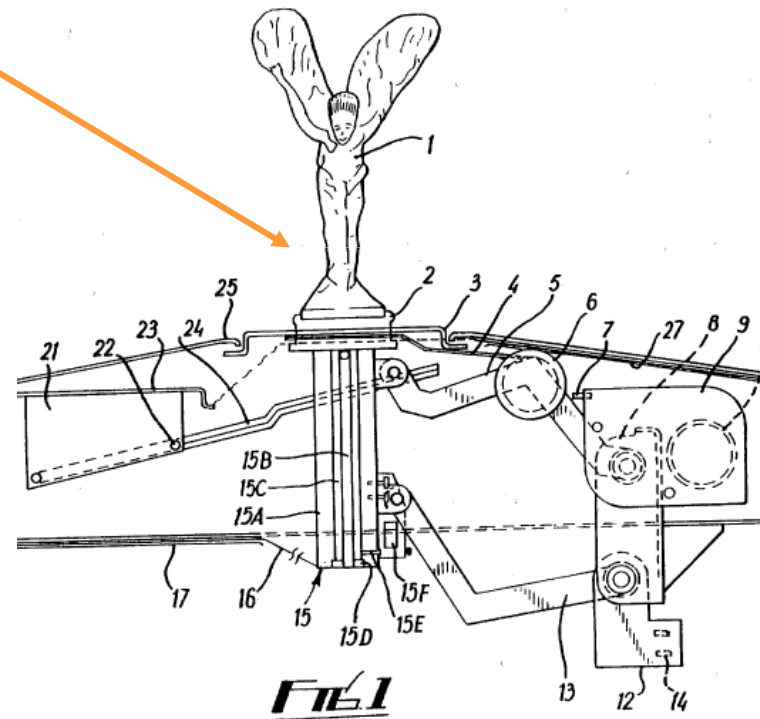
- [www.uspto.gov](http://www.uspto.gov)
- [www.freepatentsonline.com](http://www.freepatentsonline.com)
- [www.copyright.gov](http://www.copyright.gov)

# Multiple IP Vehicle Protection

- Overlapping protection
- Multiple possible law suits

# Rolls-Royce “Spirit of Ecstasy”

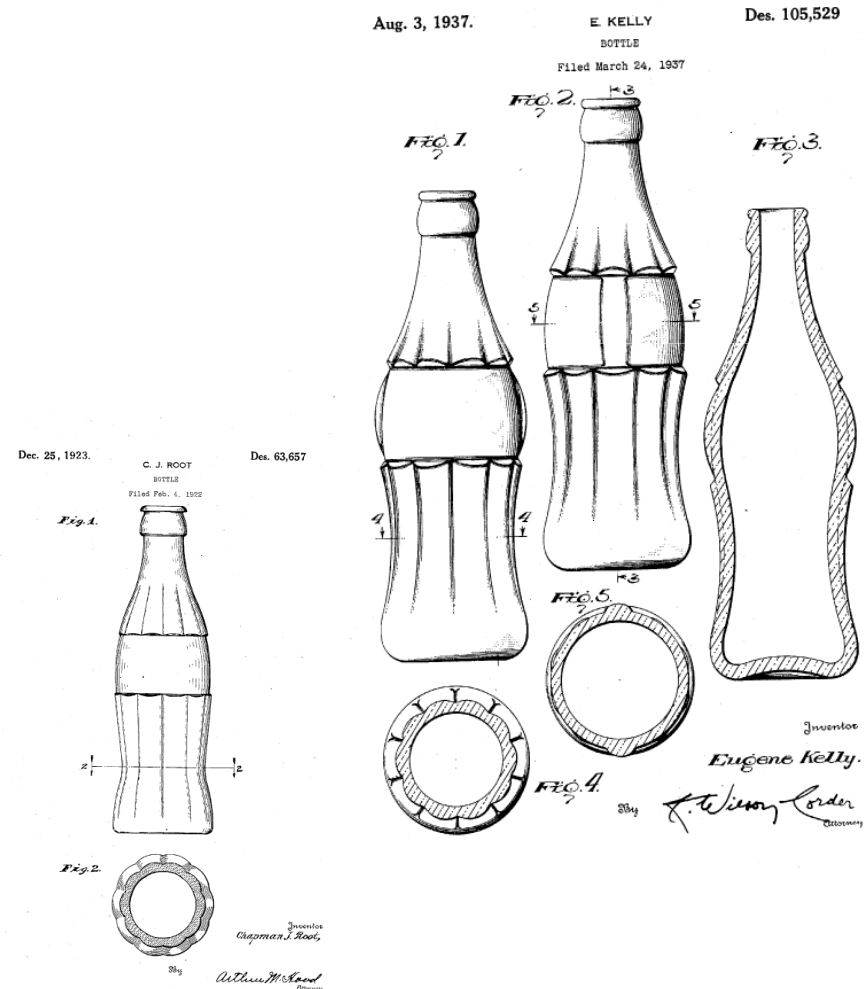
- “The Spirit of Ecstasy” mascot could be protected by various types of intellectual property.
  - Patent
  - Copyright
  - Trademark



(WO 9400316 A1)

# Overlapping IP Protection: The Coca-Cola Contour Bottle

- The Coca-Cola Company received 1<sup>st</sup> patent 1915, a 2<sup>nd</sup> design patent for the contour bottle on March 24, 1937, preventing imitation of the bottle for another 14 years.



# Overlapping IP Protection: The Coca-Cola Contour Bottle

- The bottle became so well known that it became synonymous with the Coca-Cola product.
- The Coca-Cola Company sought and obtained a federal trademark registration for its contour bottle on April 12, 1960, enabling the company to safeguard the bottle design **indefinitely**.

# IP Rights in Play: The Coca-Cola Product

- Trademark: Bottle, COCA-COLA, COKE
- Copyright: Bottle, keychain, advertising
- Trade secret: The formula

# In Conclusion

- If you think you have a potentially great idea that can create wealth, protect it.

- 
- Thanks for listening
  - Any questions?