UNITED STATES PATENT AND TRADEMARK OFFICE



The Path to a Patent, Part I: IP basics and patent application process

SCRA Collaborative Program

Eastern Regional Outreach Office

June 8, 2021

UNITED STATES PATENT AND TRADEMARK OFFICE

Agenda

- What is intellectual property
 - Role and importance
 - The U.S. Patent and Trademark Office (USPTO)
 - Types of Intellectual Property
- Introduction to patents
- USPTO Resources



What is intellectual property?



Real property



Intellectual property



IP-intensive industries are a critically important component of the U.S economy

- 45.5 million jobs₄
- 38.2% of U.S. GDP⁴
- 46% higher pay⁴

IP strategy IS a business strategy

IP:

- Is attractive to investors and buyers
- Deters infringement lawsuits
- Can increase leveraging power
 - Mergers and acquisitions
- Is a property right that can add value to a company's assets

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• Is Global

What is the U.S. Patent and Trademark Office?







The USPTO is America's innovation agency

Committed to:

- Fostering innovation and economic growth
- Creating a reliable, predictable, and highquality IP system





The USPTO in FY19

12,652 employees

- 9,614 patent examiners
- **701** trademark examining attorneys
- **383** Patent Trial and Appeal Board team
- **73** Trademark Trial and Appeal Board team

Patents

- 665,231 applications filed
- **370,434** patents issued

Trademarks

- 673,233 trademark applications
- **297,774** Certificates of Registration





USPTO headquarters in Alexandria, VA

Patent process overview



Step 1: Determine the type of IP protection you need





Types of intellectual property



Overview of intellectual property

	Utility patent	Design patent	Plant patent	Copyright	Trade secret	Trademark
What's protected?	An invention for process, machine, article of manufacture and composition of matter	Ornamental design for an article of manufacture	Newly invented strains of asexually reproducing flowering plants, fruit trees, and other hybrid plants	Original works of authorship, including literary, dramatic, musical, and artistic works	Formulas, methods, devices or compilations of information which is confidential and gives a business an advantage	Words, symbols, logos, designs, or slogans that identify and distinguish products or services
Examples	iPod, chemical fertilizer, process of manipulating genetic traits in mice	Unique shape of electric guitar, design for a lamp	Flowering plants, fruit trees, hybrid plants	Michael Jackson's Thriller (music, artwork and video), Windows operating system	Coca-Cola formula, survey methods used by a pollster, new invention for which patent application has not been filed	Coca-Cola name and distinctive logo, Pillsbury doughboy character
Duration of protection	20 years from the date of filing in the United States	15 years from grant of a patent in the United States	20 years from the date of filing in the United States	The life of the author plus 70 years (or for some works, earlier of 95 years from publi-cation or 120 years from creation)	As long as infor- mation remains confidential and functions as a trade secret	As long as mark is in continuous use in connection with goods or services – renew by year 6, then at year 10, then every 10 years
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18.3

Trade secrets







Ways to lose a trade secret

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







Things protected by copyrights





Books



Sculptures

Movies

Copyright

- Library of Congress
- Protects "original works of authorship" including literary, dramatic, musical, artistic, and certain other intellectual works
- Term: Author's life + 70 years
- <u>www.copyright.gov</u>









Examples of trademarks

Trademarks can be **WORDS**

STARBUCKS

Trademarks can be **DESIGNS**









Nontraditional marks – colors









Nontraditional marks – scents









Nontraditional marks – sounds



Patents

A U.S. patent is

- A property right granted by the United States government to an inventor
- To exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States
- For a limited time
- In exchange for public disclosure of the invention



Why get a patent?

- Gain entry to a market
- Exclude others from a market
- Use it as a marketing tool to promote unique aspects of a product
- Sell or license, like other property



Step 2: Determine if your invention is patentable





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.



Patent eligibility requirements

What can be patented:

- Process
- Machine
- Article of manufacture
- Composition of matter
- Improvement of any of the above
- Ornamental design of an article of manufacture
- Asexually reproduced plant varieties

What cannot be patented:

- Law of nature
- Physical phenomena
- Abstract ideas
- Literary, dramatic, musical, and artistic works
- Inventions which are:
 - Not useful or
 - Offensive to public morality

How do I know if my invention is patentable?

- Search
 - U.S. patents
 - Foreign patents
 - Printed publications
 - The internet
- Part II of this presentation is focused on patent searching



Step 3: What kind of patent do you need?





Types of patents

Utility

New and useful process, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof



Design

Any new, original and ornamental design; protects the way an object appears



Plant

Whoever invents or discovers and asexually produces any distinct and new variety of plant



Utility patents

- Protect the function of an invention—the way it works
- Valid for 20 years from the date the application is filed









Provisional vs. nonprovisional

Provisional application

- Establishes a filing date
- No claims required
- Inexpensive
- Not published or examined
- One year to pursue nonprovisional

Nonprovisional application

- Statutory requirements for what has to be filed
- More expensive
- Published and examined
- Can result in a patent



Utility patent fees

	Large entity	Small entity	Micro entity
Basic filing fee	\$300	\$150	\$75
Search fee	\$660	\$330	\$165
Examination fee	\$760	\$380	\$190
Initial cost	\$1720	\$860	\$430
Issue fee	\$1000	\$500	\$250

Entity status discounts

- Small entity status gets a 50% discount
 - An individual or
 - A small business (less than 500 employees) or
 - A non-profit organization
- Micro-entity status gets a 75% discount
 - Qualify as a small entity
 - Filed no more than four previous applications
 - Income not greater than three times the median income
 - September 2019: \$184,116
 - Not assigned to other than a micro-entity
 - Inventions assigned to employer don't count against you
Need to fast track your patent?

- Track One provides a final disposition within about 12 months
- Utility and plant applications
- Limited to 12,000 requests
- \$4,000/\$2,000/\$1,000



Step 5: Prepare and submit your initial application



Parts of a patent application

- Abstract: Short summary of the invention
- Written description: How does it work? How is it made or used?
- Drawings: What does it look like?
- One or more claims



Claims

How should Not valuable invention be Тоо delineated by specific the claims? Invention Not patentable Too general

Examples of dependent claims

- A **dependent** claim incorporates by reference all the limitations of the claim to which it refers.
- 2. A headgear apparatus as in claimone wherein **said** eye shield member is adjustable with respect to **said** headband member.
- 3. A headgear apparatus as in claim one, wherein **said** visor member and **said** eye shield member are secured to **said** frontal portion of **said** headband member by **a** set of rivets.
- 4. A headgear apparatus as in claim two wherein **said** headband member is formed from neoprene fabric



Filing your application

• Submit online using EFS-Web or DOCX

- Upload all necessary documents

- Payment of required fees

 Receive an application number and filing date



Electronic Business Center (EBC)

• The EBC can assist with:

- Submitting your patent application via EFS-Web
- Viewing application information in Public and Private PAIR
- Searching for patents in AppFT and PatFT
- Digital certificate, customer number issues, and assistance
- Java and web browser problems
- Technical problems or errors with your patent application
- PDX/DAS registration inquires and issues
- Technical problems with biotech tools

Contact Info

Hours: Monday – Friday, 6 a.m. to midnight ET, except federal holidays

Telephone Numbers:

- Toll-Free: 866-217-9197
- Local: 571-272-4100

Email: ebc@uspto.gov



Step 6: Work with your examiner



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The patent application roadmap



What does a patent examiner do?

- Reads and understands the application
- Searches for prior art
- Evaluates the claims with respect to statutory requirements and formal requirements
- Writes office actions to applicant describing all findings related to patentability
- Holds interviews with applicant to explain findings and explore opportunities to advance prosecution

Statutory hurdles

- Is it patent eligible?
- Is it new?
- Is it nonobvious?
- Are the claims written clearly?
- Could a skilled technician reproduce the claimed invention based on what is in the specification?

Step 7: Receive your approval





Issued patent



(12) United States Patent (10) Patent No.: US 10,000.000 B2 Marron (45) Date of Patent: Jun. 19, 2018 (54) COHERENT LADAR USING INTRA-PIXEL (56) **References** Cited OUADRATURE DETECTION U.S. PATENT DOCUMENTS 5,093,563 A * 3/1992 Small . G02B 27/58 (71) Applicant: Raytheon Company, Waltham, MA 250/201.9 (US) 5.75L830 A 5/1998 Hutchinson 2003/0076485 A1 4/2003 Ruff et al. 2006/0227317 A1* 10/2006 Henderson G01B 11/026 (72) Inventor: Joseph Marron, Manhattan Beach, CA 356/28 (US) FOREIGN PATENT DOCUMENTS (73) Assignee: Raytheon Company, Waltham, MA WO WO 2005/080928 A1 9/2005 (US)OTHER PUBLICATIONS (*) Notice: Subject to any disclaimer, the term of this Li; "Time-of-Flight Camera-An Introduction"; Texas Instruments patent is extended or adjusted under 35 White Paper; SLOA190B; Jan. 2014; revised May 2014; 10 pp. U.S.C. 154(b) by 430 days. (Continued) (21) Appl. No.: 14/643,719 Primary Examiner - Luke D Ratcliffe (74) Attorney, Agent, or Firm - Munck Wilson Mandala, Ì I P (22) Filed: Mar. 10, 2015 (57) ABSTRACT A frequency modulated (coherent) laser detection and rang-Prior Publication Data ing system includes a read-out integrated circuit formed with a two-dimensional array of detector elements each including US 2016/0266243 A1 Sep. 15, 2016 a photosensitive region receiving both return light reflected from a target and light from a local oscillator, and local processing circuitry sampling the output of the photosensi-(51) Int. Cl. tive region four times during each sample period clock cycle G01S 7/48 (2006.01) to obtain quadrature components. A data bus coupled to one G01S 7/486 (2006.01) or more outputs of each of the detector elements receives the G01S 7/491 (2006.01) quadrature components from each of the detector elements (2006.01) G01S 13/89 for each sample period and serializes the received quadra-(52) U.S. Cl. ture components. A processor coupled to the data bus receives the serialized quadrature components and deter-... G01S 7/4863 (2013.01); G01S 7/4865 CPC (2013.01); G01S 7/4914 (2013.01); G01S mines an amplitude and a phase for at least one interfering 7/4917 (2013.01); GOIS 13/89 (2013.01) frequency corresponding to interference between the return light and the local oscillator light using the quadrature (58) Field of Classification Search components. CPC G02B 27/58; G02B 26/10; G01J 1/20 See application file for complete search history. 20 Claims, 6 Drawing Sheets 120 121d-FM 121e-LO 1210 127

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Step 8: Maintain your patent





Enforcement

- Onus is on the owner to enforce their patent rights
 - Monitor marketplace for infringing products
 - Respond to infringement when detected
- Government enforcement resources
 - STOPfakes.gov
 - Customs and Border Protection



STOPfakes.gov

- The International Trade Administration (ITA), U.S. Department of Commerce, manages STOPfakes.gov to assist U.S. businesses in protecting and enforcing their intellectual property rights against counterfeits and pirated goods in the global marketplace
- Provides information, guidance, and trainings for businesses and consumers by both industry and country of interest



U.S. Customs and Border Protection

- Customs and Border Protection (CBP) can detain and seize imported goods which violate intellectual property rights in the United States
- CBP officers can access the recordation database at each of the 317 ports of entry





www.uspto.gov/patent



www.uspto.gov/startups

Inventors Assistance Center (IAC)

Inventors Assistance Center (IAC) provides patent information and services to the public. The IAC is staffed by former supervisory patent examiners and experienced former primary examiners who answer general questions concerning patent examining policy and procedure.

Contact Info

Hours: Monday – Friday, 8:30 a.m. to 8 p.m. ET, except federal holidays

Telephone Numbers

- 800-PTO-9199 (800-786-9199)
- 571-272-1000

TTY customers can dial 800-877-8339 for customer assistance



Inventors Assistance Center (IAC)

• What IAC can do for you:

- Answer general questions regarding patent examining policy
- Answer questions concerning necessary formats and items needed for your patent application
- Assist you with forms needed and with filling out the forms
- Direct your calls to appropriate USPTO personnel or <u>www.USPTO.gov</u> web pages, as necessary
- Provide you with general information concerning patent examining rules, procedures, and fees
- Send you patenting information and forms via USPS mail or facsimile
- What IAC cannot do for you:
 - Give an opinion as to whether an invention is patentable
 - Provide legal advice or legal interpretations
 - Provide patent searches or other intellectual property research
 - Provide specific line-by-line completion of forms (but can provide directions)

Resources

Helpline: 1-800-PTO-9199

Utility patent application guide	www.uspto.gov/patents/resources/types/utility.jsp
Patent process	www.uspto.gov/patents/process
Patent search guide	www.uspto.gov/patents/process/search
IP awareness assessment tool	www.uspto.gov/inventors/assessment
Inventor and entrepreneur resources	www.uspto.gov/inventors
Pro se assistance	www.uspto.gov/ProSePatents
Micro entity limit	www.uspto.gov/PatentMicroentity
Patent pro bono help and video	www.uspto.gov/inventors/proseprobono
First inventor to file	www.uspto.gov/aia_implementation/patents.jsp#heading-10
Law school clinic program	www.uspto.gov/LawSchoolClinic

www.uspto.gov



Find help in your area



USPTO offices: Headquarters:

- Alexandria, VA

Regional offices:

- Detroit
- Denver
- Silicon Valley
- Dallas

Additional resources:

- Inventors Assistance Center
- Patent Pro Bono Program
- Law school clinics
- Patent and Trademark Resource Centers



East Coast region – USPTO headquarters

600 Dulany Street, Alexandria, Virginia



Core Functions:

- Receipt and examination of patent and trademark applications
- U.S. and international IP policy development
- Oversight and management of USPTO operational functions
- Stakeholder engagement and training



- Office hours: 8:30 a.m. 5 p.m. ET, M F
- Services
 - Public search facility hours 8 a.m. 5:30 p.m.
 - Examiner interview room
 - Hearing room
 - Public meeting space
 - National Inventors Hall of Fame Museum, 10:00 a.m. – 5:00 p.m.

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Aain menu Patents	South Carolina	
Trademarks	South Carolina residents have access to a host of unique resources and categories below to see what is available to you. Additionally, our <u>USP</u>	
IP Policy Learning and Resources	support and resources for customers in the Eastern region of the Unite	d States.
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	> Network with inventor and entrepreneur organizations in your s	tate
	Do you have suggestions for resources to include on this page? Please InnovationDevelopment@uspto.gov .	contact

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- Inventors Eye
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- USPTO Awards



USPTO Events Webpage



Learn how to draft patent claims - virtual only

Claim drafting may be the most important part of protecting your invention. Learn the basics of claim drafting from USPTO experts in this interactive workshop. You will develop a better appreciation of how a patent examiner views a claim during the course of examination. This event is free and open to the public, so <u>register</u> <u>early</u> C.

The May 15 session will be offered virtually via WebEx for those that have registered for the class.

To get the most out of this workshop, you should have an intermediate knowledge of the intellectual property system and of patents specifically. We recommend that you complete the previous sessions, "Learn the basics of intellectual property with a focus on patents" and "Learn how to draft your patent application" before attending.

Please note that the Silicon Valley USPTO is a federal facility. Attendees are required to present a valid form of government-issued identification (driver license or passport) and may be subject to screening to gain access.

This event is accessible to individuals with disabilities. To request a reasonable accommodation, including captioning, sign language interpreting, or other, please email <u>siliconvalley@uspto.gov</u> \square or call 408-918-9900 \square .

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Patent and Trademark Resource Centers (PTRC)

Nationwide network of public, state, and academic libraries that are designated by the USPTO to disseminate patent and trademark information and to support intellectual property needs of the public.

www.uspto.gov/ptrc



Upcoming programs

- Hand of History, Mind of the Inventor (virtual only)
 - Wednesday, June 9, 3 p.m.-4 p.m. ET
- Career Chat: USPTO and NAI ScholarShare (virtual only)
 - Thursday, June 17, 1 p.m. to 2 p.m. ET
- Invention-Con 2021: Capitalizing on your intellectual property (virtual only)
 - August 18-20 (for more information email: InventionCon@uspto.gov)



Glossary of patent terms

- **Utility**–a credible use for a particular purpose of the claimed invention
- Metes and bounds—the claim scope which determines the legal limits of patent property rights
- **Person having ordinary skill in the art (PHOSITA)**—a hypothetical person who is presumed to have the capability of understanding the scientific and engineering principles applicable to the pertinent art
- **Patentable**-subject mater that is able to be patented
- **Allowable**–subject matter that meets all statutory requirements





Thank you!



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