

**UNITED STATES  
PATENT AND TRADEMARK OFFICE**



The background of the slide is a technical drawing of a mechanical assembly, possibly a piston or a similar component, with various parts labeled with numbers such as 80, 84, 86, 82, 24, 30, 34, 32, 52, 50, and 5. The drawing is rendered in a light gray color against a white background. In the top left corner, there is a small yellow speech bubble icon.

# **The Path to a Patent, Part I: The patent application process**

Rocky Mountain Regional U.S. Patent and Trademark Office  
January 7, 2021

UNITED STATES  
PATENT AND TRADEMARK OFFICE

**uspto**

# 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

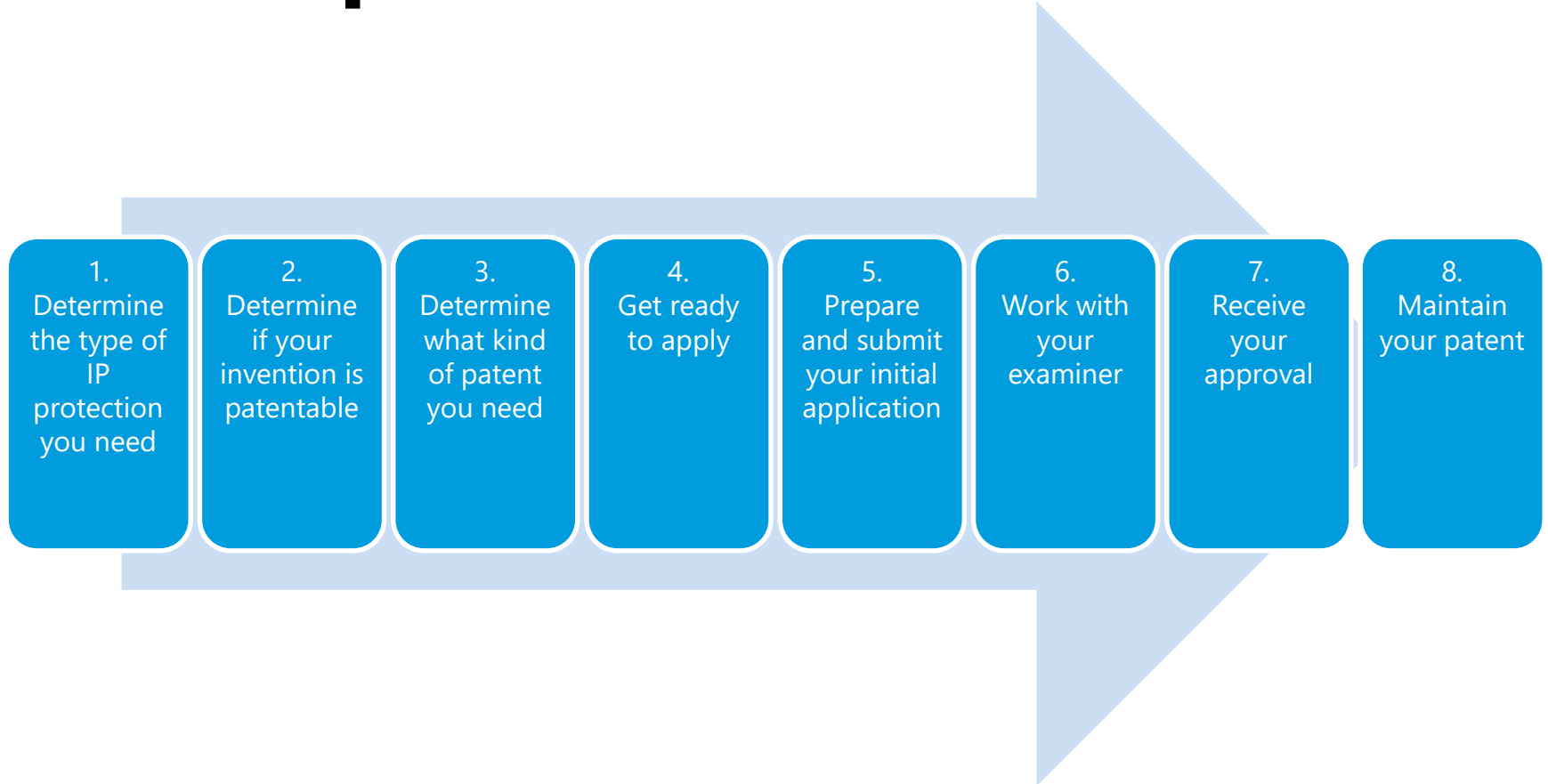
- **673,233** trademark applications
- **297,774** Certificates of Registration

USPTO headquarters in  
Alexandria, VA



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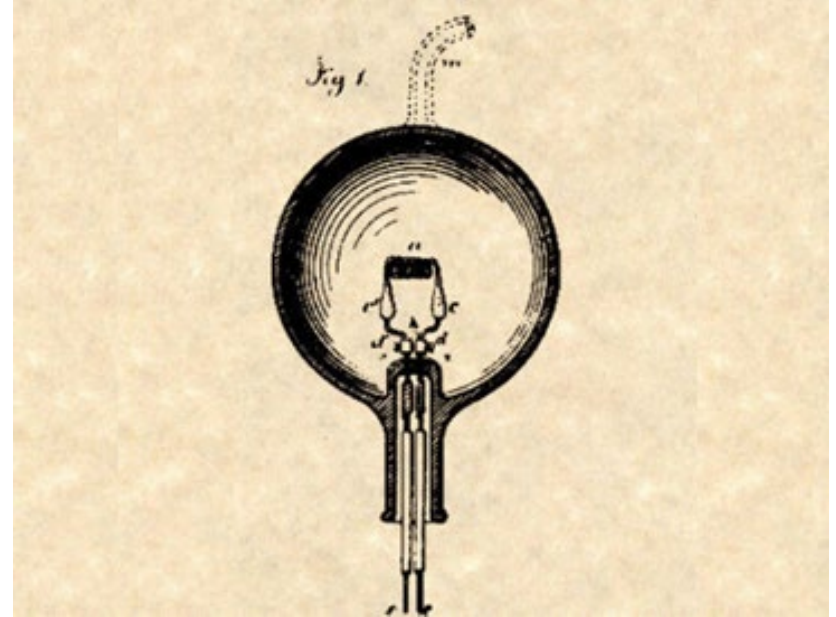
# Patent process overview



# What is intellectual property?

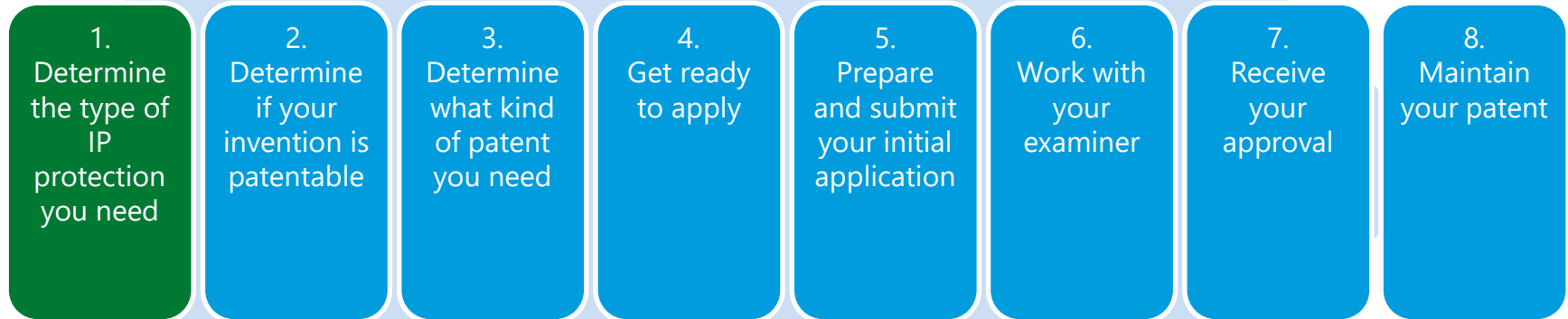


Real property



Intellectual property

# Step 1: Determine the type of IP protection you need



# Types of intellectual property



## Patent

New, inventive ideas



## Trademark

Identifies the origin of goods or services



## Copyright

Creative expression stored in a tangible form



## Trade secret

Any information that is valuable & kept confidential



# Trade secrets



Google

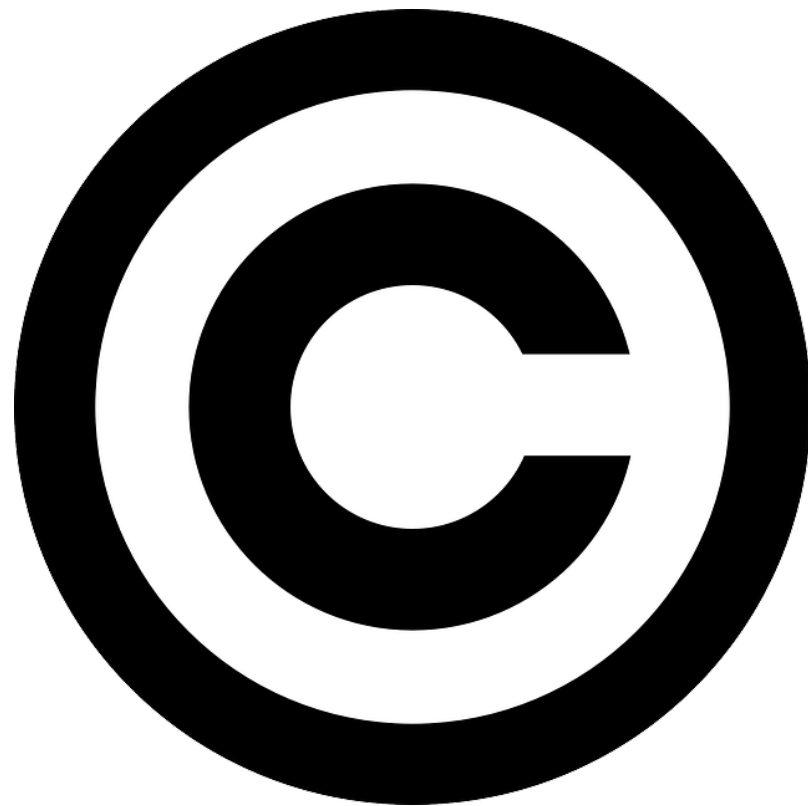
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# Ways to lose a trade secret

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



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# Things protected by copyrights



Songs



Books



Movies



Sculptures





# 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
- [www.copyright.gov](http://www.copyright.gov)



**TM**      **®**

# Common-law trademark

- Trademark that is **used** in commerce in connection with specified goods and services, but **not registered**
- Rights are limited to geographic area (based on use in that area)
- Optional symbols: <sup>TM</sup> <sup>SM</sup>
- U.S. is a first-to-use country
  - most countries are first-to-file



# Federal registration advantages

- Public notice of claim of ownership
- Legal presumption of ownership and exclusive right to use mark in U.S. on/in connection with the goods/services listed in registration
- Ability to bring an action in federal court
- Use of U.S. registration as a basis to obtain registration in foreign countries
- Right to use the federal registration symbol ®
- Listing in the United States Patent and Trademark Office's online databases
- Registration may be recorded with U.S. Customs to prevent importation of infringing foreign goods
  - Recordation fee for trademarks is US \$190 per International Class of goods

# Examples of trademarks

Trademarks can be **WORDS**

STARBUCKS

NIKE

TARGET

Trademarks can be **DESIGNS**



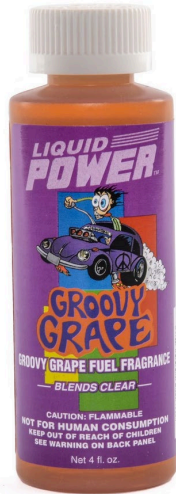
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# Nontraditional marks – colors



# Nontraditional marks – scents



verizon<sup>v</sup>



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# Nontraditional marks – sounds



# Trade dress



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# Trademark fees

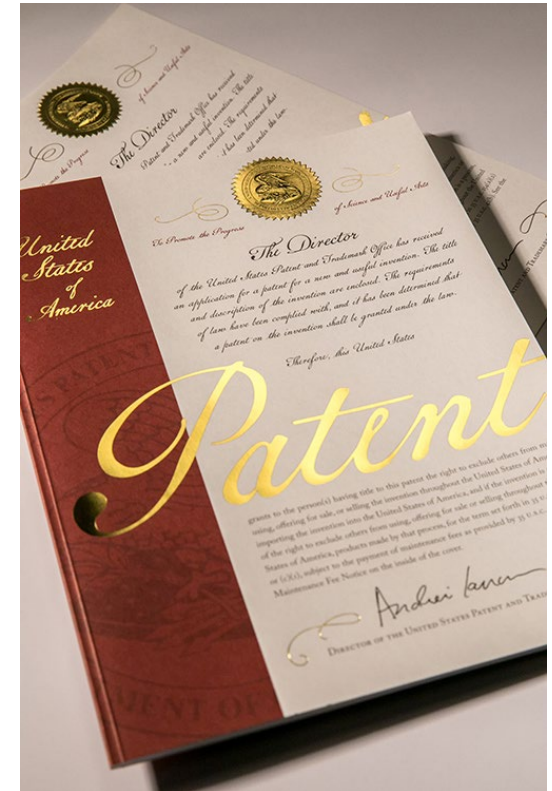
- Application fee: \$225 per class (electronic filing, TEAS plus)
- Post-registration fees
  - Affidavit of use \$125 per class (after five years)
  - Application for renewal \$300 per class (after nine years)
- Upcoming Trademark Fundamentals



# 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

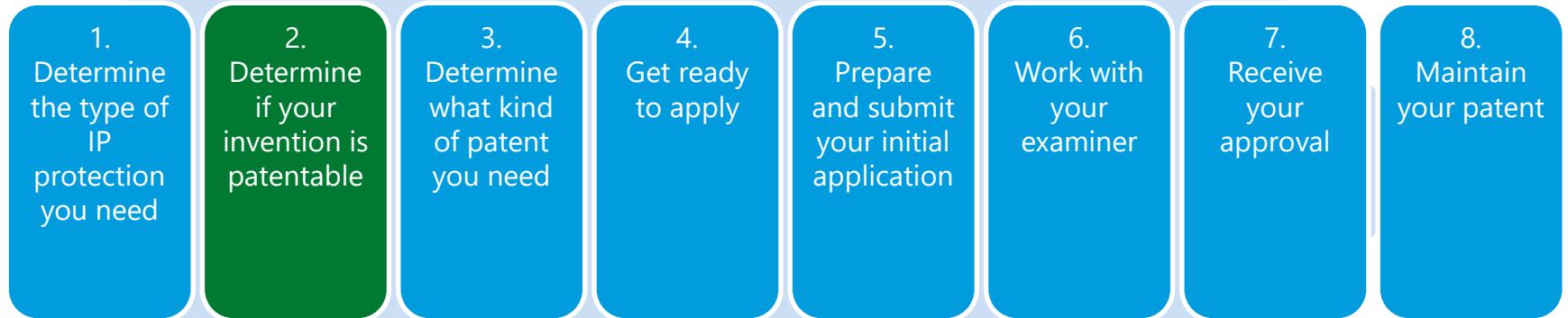




# Why get a patent?

- 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:

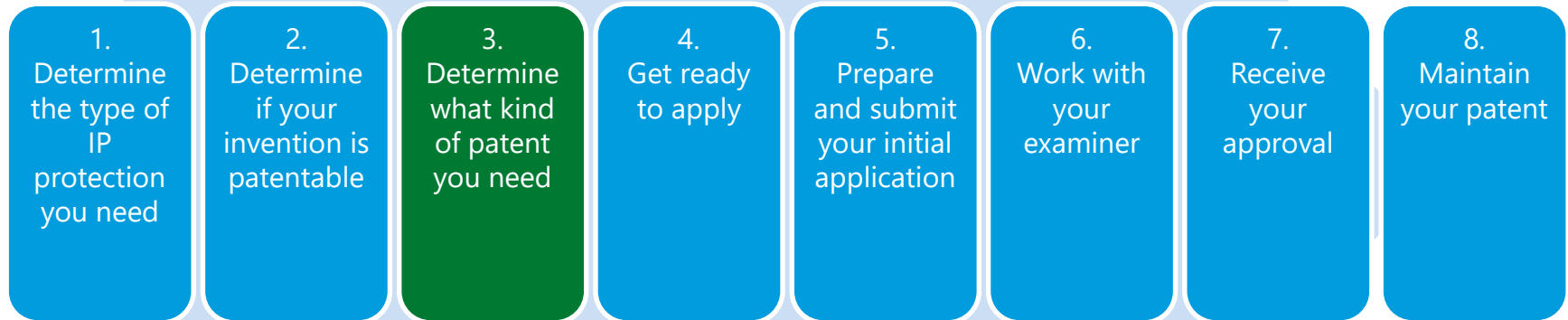
- Law of nature
- Physical phenomena
- Abstract ideas
- Literary, dramatic, musical, and artistic works
- Inventions which are:
  - Not useful or
  - Offensive to public morality



# 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 searching

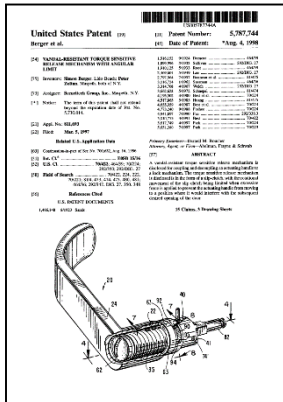
# Step 3: What kind of patent do you need?



# Types of patents

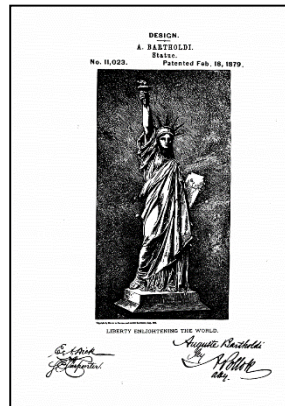
## Utility

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



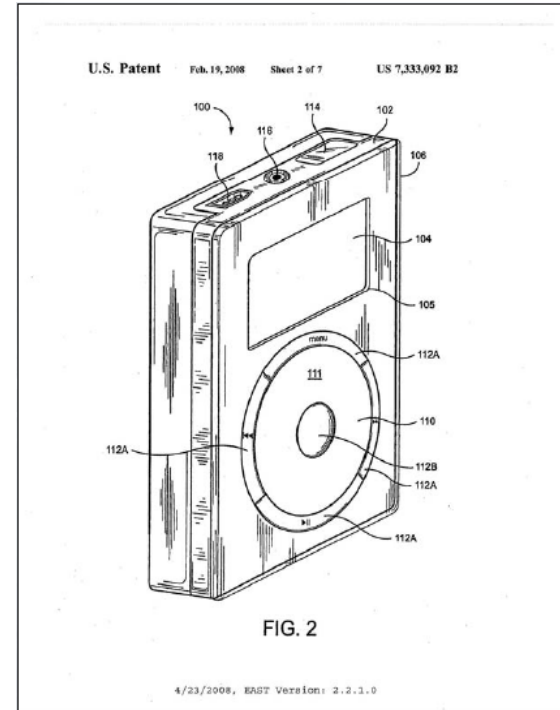
## Plant

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

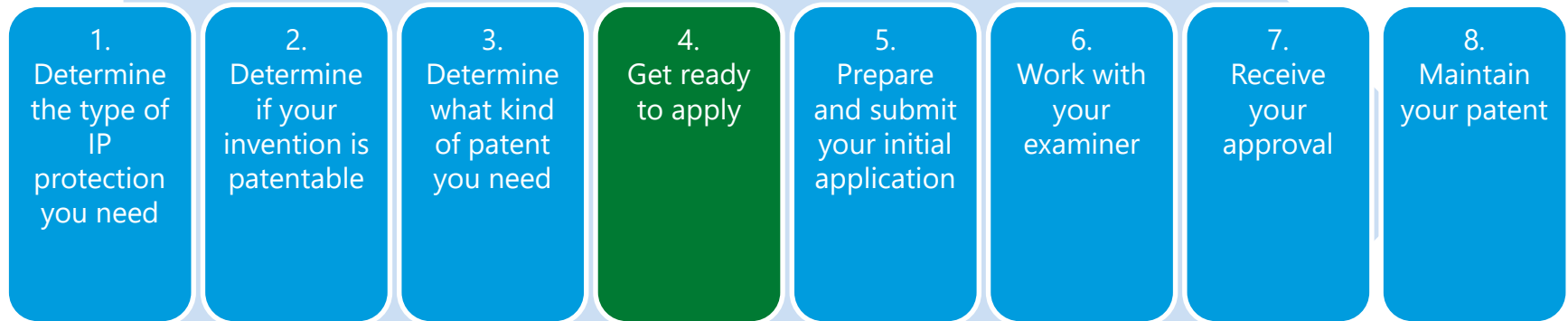


# Utility patents

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



# Step 4: Get ready to apply





# 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
<b>Initial cost</b>	<b>\$1720</b>	<b>\$860</b>	<b>\$430</b>
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



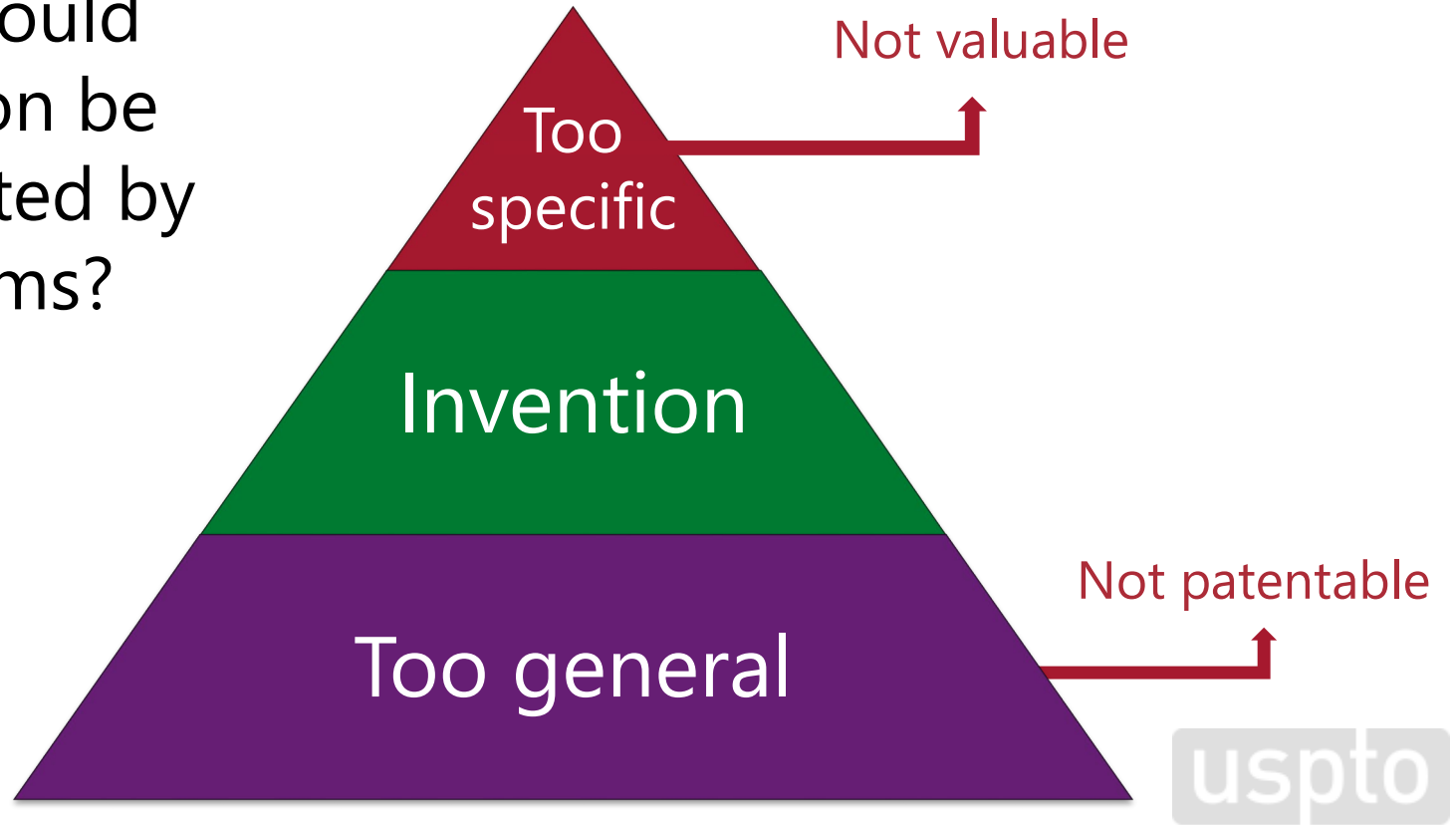


# Parts of a patent application

- 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 invention be delineated by the claims?



# Filing your application

- Submit online using EFS-Web
  - 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 inquiries and issues
  - Technical problems with biotech tools

## Contact Info

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

### Telephone Numbers:

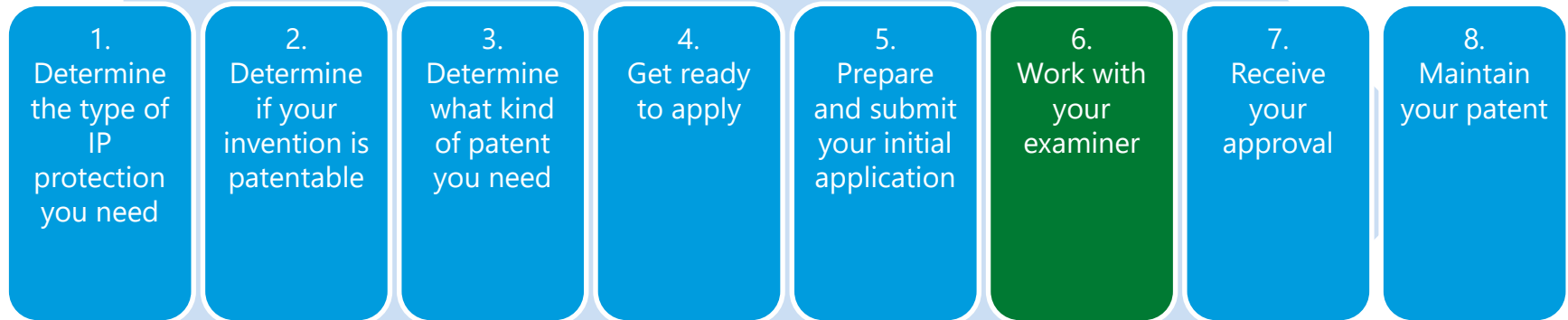
- Toll-Free: 866-217-9197
- Local: 571-272-4100

**Email:** [ebc@uspto.gov](mailto:ebc@uspto.gov)

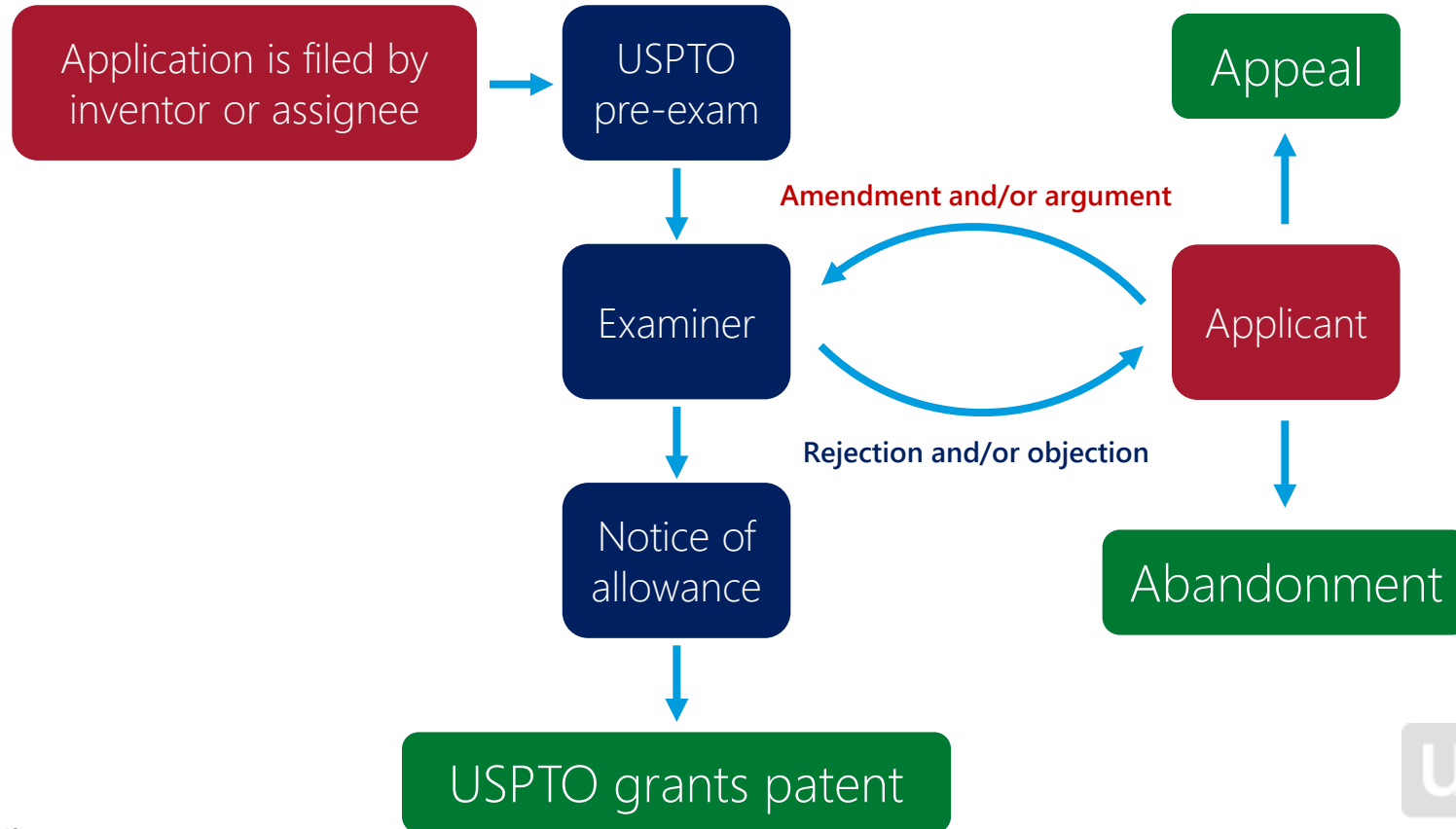




# Step 6: Work with your examiner



# Patent examination





# 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

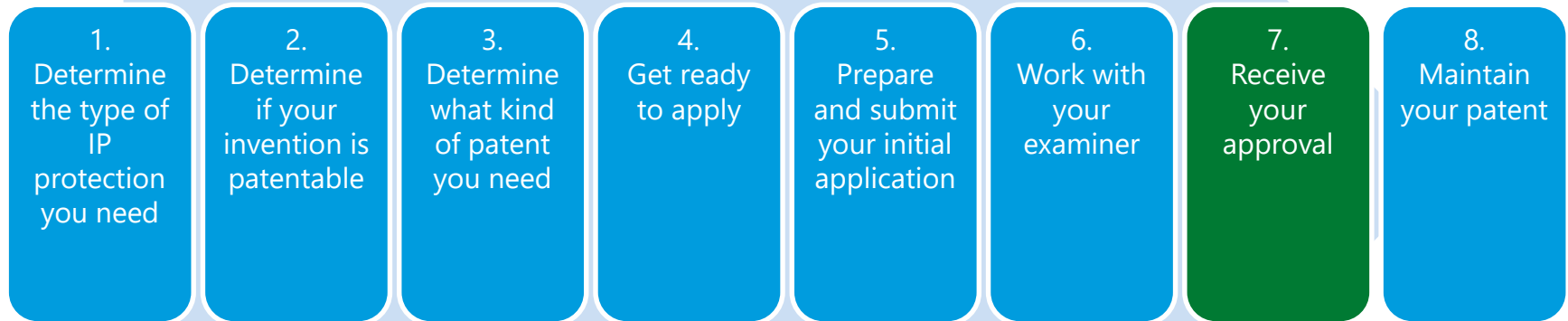


# Statutory hurdles

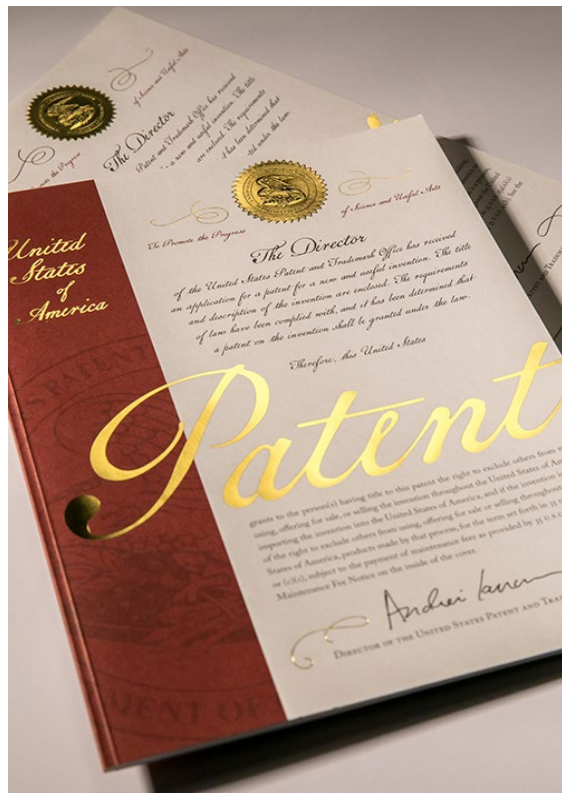
- Is it patent eligible?
- Is it new?
- Is it nonobvious?
- Are the claims written clearly?
- Could a skilled technician reproduce the claimed invention based on what is in the specification?



# Step 7: Receive your approval



# Issued Patent



US010000000B2

(12) **United States Patent**  
Marron

(10) **Patent No.:** US 10,000,000 B2  
(45) **Date of Patent:** Jun. 19, 2018

(54) **COHERENT LADAR USING INTRA-PIXEL QUADRATURE DETECTION**

(56) **References Cited**

U.S. PATENT DOCUMENTS

(71) Applicant: **Raytheon Company**, Waltham, MA (US)

5,093,563 A \* 3/1992 Small ..... G02B 27/58 250/201.9

(72) Inventor: **Joseph Marron**, Manhattan Beach, CA (US)

5,751,830 A 5/1998 Hutchinson  
2003/0076485 A1 4/2003 Ruff et al.  
2006/0227317 A1\* 10/2006 Henderson ..... G01B 11/026 356/28

FOREIGN PATENT DOCUMENTS

(73) Assignee: **Raytheon Company**, Waltham, MA (US)

WO WO 2005/080928 A1 9/2005

OTHER PUBLICATIONS

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 430 days.

Li; "Time-of-Flight Camera—An Introduction"; Texas Instruments White Paper; SLOA190B, Jan. 2014; revised May 2014; 10 pp. (Continued)

(21) Appl. No.: 14/643,719

Primary Examiner—Luke D Ratcliffe  
(74) Attorney, Agent, or Firm—Munck Wilson Mandala, LLP

(22) Filed: Mar. 10, 2015

**ABSTRACT**

(65) **Prior Publication Data**  
US 2016/0266243 A1 Sep. 15, 2016

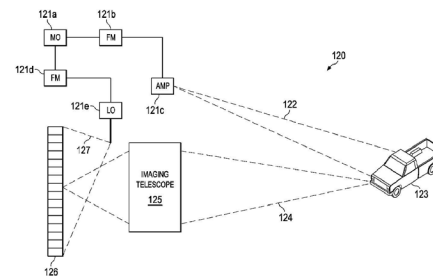
A frequency modulated (coherent) laser detection and ranging system includes a read-out integrated circuit formed with a two-dimensional array of detector elements each including a photosensitive region receiving both return light reflected from a target and light from a local oscillator, and local processing circuitry sampling the output of the photosensitive region four times during each sample period clock cycle to obtain quadrature components. A data bus coupled to one or more outputs of each of the detector elements receives the quadrature components from each of the detector elements for each sample period and serializes the received quadrature components. A processor coupled to the data bus receives the serialized quadrature components and determines an amplitude and a phase for at least one interfering frequency corresponding to interference between the return light and the local oscillator light using the quadrature components.

(51) **Int. Cl.**  
*G01S 7/48* (2006.01)  
*G01S 7/486* (2006.01)  
*G01S 7/491* (2006.01)  
*G01S 13/89* (2006.01)

(52) **U.S. Cl.**  
CPC ..... *G01S 7/4863* (2013.01); *G01S 7/4865* (2013.01); *G01S 7/4914* (2013.01); *G01S 7/4917* (2013.01); *G01S 13/89* (2013.01)

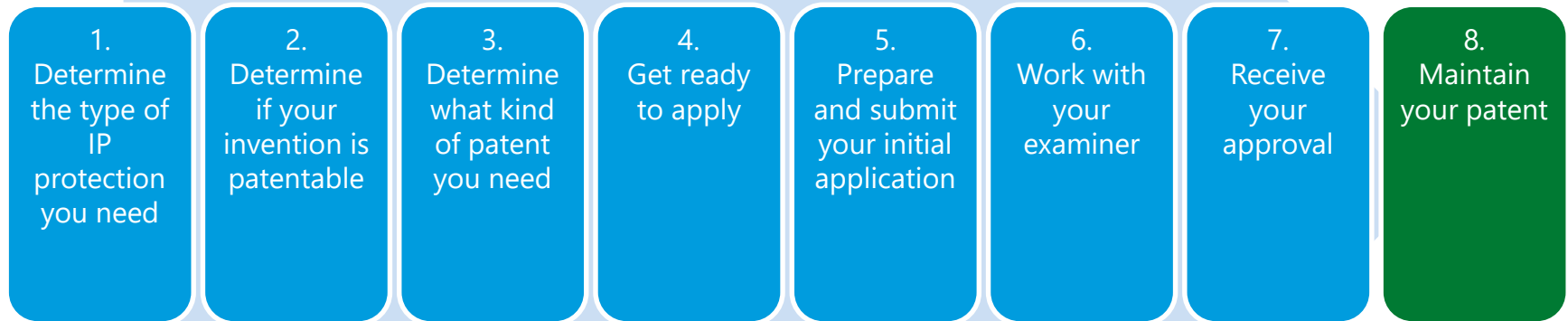
(58) **Field of Classification Search**  
CPC ..... G02B 27/58; G02B 26/10; G01J 1/20  
See application file for complete search history.

**20 Claims, 6 Drawing Sheets**





# 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](http://STOPfakes.gov)
  - Customs and Border Protection



# Resources



**Patents**

**Trademarks**

**IP Policy**

**Learning and Resources**

[Find It Fast](#)



## Patent basics

- > Patent process step-by-step
- > Search patents
- > Frequently asked questions (FAQs)
- > Procedures (MPEP) and guidance



## Apply for a patent

- > Register and easier filing resources
- > Check application status
- > Filing fees and payment
- > Forms



## Application assistance

- > Contacts for application questions
- > Advanced application resolution
- > Petitions
- > Appeals and proceedings (PTAB)



## Maintain your patent

- > Maintenance fees and payment
- > Calculate expiration date
- > Reinstate an expired patent
- > Ownership change and search



## Helpful resources

- > CARES Act deadline waivers
- > International patent filing
- > Examiner interview requests
- > In-person help near you
- > Free assistance programs



## Independent inventors

- > File a patent application on your own
- > Legal assistance and resources
- > Free resources in your state
- > Inventors Assistance Center

[www.uspto.gov/patent](http://www.uspto.gov/patent)



## Startup Resources

Many startup businesses face unique IP-related challenges, such as IP portfolio prerequisites to secure funding, and the possibility of costly patent infringement demand letters and lawsuits. We have tailored this area of our website to suit the specific needs of startup businesses, a segment of our stakeholders that continues to be recognized as an outsized engine of job creation, economic growth, and unparalleled innovation in the United States.

This portal is part of our [Startup Partnership Initiative](#)—putting key resources and critical information for startups in a single place so it's easier to find what you may need when you need it.

### Patents for Startups

The patent process can be challenging if you are not familiar with it. Here is basic information on the patent process.

- [Patent Process Overview](#)
- [Inventors Assistance Center](#)
- [Patent FAQs](#)
- [Patent Homepage](#)
- [Search for Patents](#)
- [Official Gazette for Patents](#)

### Trademarks for Startups

The trademark process can be confusing for a beginner, so here is basic information on registering a trademark.

- [Trademark Basics](#)
- [Search for Trademarks](#)
- [Filing online](#)
- [Trademark Homepage](#)

### Startup Assistance

The Inventors Assistance Center and Trademark Assistance Center provide information and services to the public. Center staff can answer questions on patent and trademark processes, but cannot provide specific legal advice.

- [Inventors Assistance Center](#)
- [Trademark Assistance Center](#)
- [Patents Ombudsman Program](#)
- [BusinessUSA \(link is external\)](#)

IP

### Current Events

Information about conferences, conventions and other opportunities to engage.

- [Upcoming Events](#)
- [Inventors Eye | Events & Announcements](#)

[www.uspto.gov/startups](http://www.uspto.gov/startups)

# 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

# U.S. Customs and Border Protection

- Intellectual Property Rights (IPR) e-recordation
  - Copyrights and trademarks
  - \$190

# 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 [www.USPTO.gov](http://www.USPTO.gov) 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:**
  - Cannot give an opinion as to whether an invention is patentable
  - Cannot provide legal advice or legal interpretations
  - Cannot provide patent searches or other intellectual property research
  - Cannot provide specific line-by-line completion of forms (but can provide directions)



# Patent Prosecution Highway (PPH)

- A system of work sharing that improves examination efficiency by reducing duplication of effort among patent offices
- Enables an applicant who has received a determination of allowable claims in an application from one office (national stage or PCT) to obtain fast track processing of corresponding claims in application pending in other offices

# How does PPH work?

- Applicant receives a positive examination result from a PPH participating office
  - A national/regional office action indicating allowable claims
  - Patent Cooperation Treaty (PCT) written opinion or PCT international preliminary report on patentability
- Applicant files a PPH request in a corresponding application in another PPH participating office
- Once the PPH request is granted, the examination of the application in the second office is expedited



# Applications excluded from PPH

- Provisional applications
- Plant applications
- Design applications
- Reissue applications
- Reexamination proceedings, and
- Applications subject to a secrecy order



# Resources

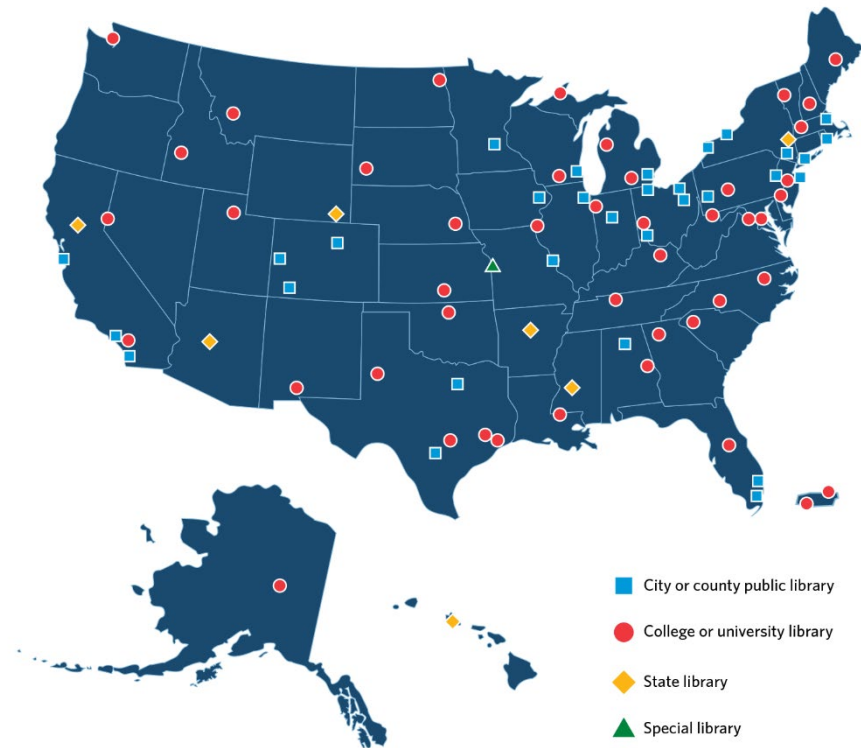
**Helpline: 1-800-PTO-9199**

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

# 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](http://www.uspto.gov/ptrc)



# Helpful Hint: Have an Interview



## Interview

### ***Pro Se* Inventor(s)/Applicant(s)**

- In person on Office premises, via WebEx, over the phone, or Video Tele-Conference (VTC)

### **Attorney/Agent representing inventor(s)**

- In person on Office premises, via WebEx, over the phone, or Video Tele Conference
- Inventor(s)/Applicant(s) cannot have an interview without their attorney or agent present

# 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 matter that is able to be patented
- **Allowable** – subject matter that meets all statutory requirements

# Upcoming programs

**The Path to a Patent, Part II: How to Draft a Provisional Application,** Thursday, Jan. 21, 1:30-2:30 p.m. ET

**The Path to a Patent, Part III: Patent Searching,** Friday, Jan. 22, 1–2:30 p.m. ET

**The Path to a Patent, Part IV: Learn How to Draft a Patent Application,** Friday, Jan. 29, 1-3 p.m. ET

**The Path to a Patent, Part V: Learn How to Draft Patent Claims,** Friday, Feb. 12, 1-3 p.m. ET

**The Path to a Patent, Part VI: Learn How to Protect Your IP Abroad:** Friday, Feb. 26, 1-3 p.m. ET

**The Path to a Patent, Part VII: Filing a Patent Application Using EFS-Web,** Friday, Mar. 12, 1-3 p.m. ET

**The Path to a Patent, Part VIII: Common Mistakes and Support after Filing:** Friday, Mar. 26, 1–2:30 p.m. ET







# Thank you!



[uspto.gov](https://www.uspto.gov)



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[@uspto](https://www.instagram.com/uspto)

[rockymountain@uspto.gov](mailto:rockymountain@uspto.gov)

[www.uspto.gov/denver](https://www.uspto.gov/denver)