



Conducting a Preliminary Patent Search

Akron PTRC

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Basic Patent Information

A Patent:

- is a form of intellectual property granted by the US Government to an inventor.
- allows the inventor to exclude others from making, using, offering for sale, or selling the invention throughout the US or importing the invention into the US.
- is granted in exchange for public disclosure of the invention.
- is granted for a limited period of time.

Basic Patent Information

3 Types of Patents:

- Utility Patents
 - new and useful processes, machines, articles of manufacture, composition of matter or useful improvements thereof.
 - granted for 20 years from date of application filing.
 - the vast majority of patents are Utility Patents.
- Design Patents
 - new, original, and ornamental designs for an article of manufacture.
 - granted for 15 years from date of application filing.
- Plant Patents
 - new and distinct asexually reproduced variety of plant.
 - granted for 20 years from date of application filing.

Basic Patent Information

3 Types of Patents:

These are not mutually exclusive – you may seek and be granted multiple patents on a single invention.

Basic Patent Information

What can be Patented:

- processes, machines, manufactured articles, compositions of matter, animals, asexually reproduced plants, ornamental designs of useful objects.
- improvements of these.

What cannot be Patented:

- a mere suggestion or idea, laws of nature, physical phenomena, abstract ideas, printed matter, nuclear weapons.

Basic Patent Information

Utility Patents:

- invention must be novel – nothing identical can have previously existed.
- invention must be non-obvious – someone skilled in the particular field would view it as an unexpected or surprising development.
- invention must be useful – must provide some practical benefit or help complete real world tasks.

To whom...? the Patent Examiner

Prior Art

To prove novelty you must examine the prior art for your invention...

- Prior Art is:
 - any body of knowledge, especially published documents, that contains a discussion or description relevant to an invention for which a patent is being sought or enforced.
- Can include, but is not limited to:
 - journal or magazine articles.
 - books, manuals, catalogs, websites.
 - conference proceedings, scientific papers.
 - US or foreign patents or published applications.

Classification

- To find prior art for your invention you need to examine all the similar patents.
- Patents are grouped in a hierarchical category system based on their characteristics and relationships.
- As of January 1, 2015 patent classification system is called the **CPC** (Cooperative Patent Classification).

Classification

- Patents from 1790-2014 used US Patent Classification System.
- USPTO moved to CPC because:
 - CPC was jointly adopted by USPTO and EPO in 2013.
 - CPC is jointly updated by USPTO and EPO as examiners/classifiers and technologies change.
 - CPC reduces duplication of effort in classification by patent offices.
 - CPC is an extension of the International Patent Classification System (IPC) used by every patent office.
 - CPC offers more subdivisions for categorizing patents than all previous systems.
- US Patent backfile has been reclassified to CPC (so are searchable using CPC).

Classification

CPC Main Sections:

A - HUMAN NECESSITIES

B - PERFORMING OPERATIONS; TRANSPORTING

C - CHEMISTRY; METALLURGY

D - TEXTILES; PAPER

E - FIXED CONSTRUCTIONS

F - MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS;
BLASTING ENGINES OR PUMPS

G - PHYSICS

H - ELECTRICITY

Y - GENERAL TAGGING OF NEW TECHNOLOGICAL DEVELOPMENTS;
GENERAL TAGGING OF CROSS-OVER TECHNOLOGIES SPANNING OVER
SEVERAL SECTIONS OF THE IPC

Classification

CPC Classification Structure

Example: **A23G 9/26**

A (Section): Human Necessities

A23 (Class): Foods or Foodstuffs...

A23G (Subclass): Cocoa, Cocoa Products, e.g. Chocolate...

A23G 9/00 (Main Group): Frozen Sweets...

A23G 9/26 (Subgroup): Method for producing frozen sweets on sticks.



Classification

CPC Class Scheme is similar to an Outline

A23G 1/00 Cocoa; Cocoa products, e.g. chocolate; Substitutes therefor (kitchen equipment for cocoa preparation A47J , e.g. apparatus for making beverages A47J 31/00)

NOTE

Attention is drawn to the internal note after the subclass title

- A23G 1/0003 . {Processes of manufacture not relating to composition or compounding ingredients}
- A23G 1/0006 .. {Processes specially adapted for manufacture or treatment of cocoa or cocoa products (A23G 1/002 to A23G 1/005 take precedence)}
- A23G 1/0009 ... {Manufacture or treatment of liquid, cream, paste, granule, shred or powder}
- A23G 1/0013 {Weighing, portioning processes}
- A23G 1/0016 {Transformation of liquid, paste, cream, lump, powder, granule or shred into powder, granule or shred; Manufacture or treatment of powder}
- A23G 1/002 .. {Processes for preparing or treating cocoa beans or nibs}
- A23G 1/0023 .. {Cocoa butter extraction by pressing}

Multi-Step Patent Search Strategy

1. Brainstorm terms to describe your invention based on its purpose, composition and use.
2. Conduct a keyword search using Patent Public Search.
3. Conduct an in-depth review of the documents found in your search.
4. Expand the search with relevant CPC classifications.
5. Review cited references.
6. Broaden your search to find additional patent and non-patent publications.

1

Brainstorm terms to describe your invention

Think of as many terms as you can that describe your invention.

- Consider the **purpose** of the invention ... Is the patent for a useful object or an ornamental design?
- Is the invention a **process** or **product**?
- What is the invention **made of**?
- How is the invention **used**?
- What keywords or technical terms describe the nature of the invention?

1

Brainstorm terms to describe your invention

Example: An Improvement to Umbrellas

- **Purpose:** this improvement has a new rib design to prevent collapse or inversion in high wind.
- **Invention:** this improvement will eliminate the need for frequent umbrella replacement.
- **Components:** a framework of ribs, stretchers and a main frame securing rings, mounting brackets, joint connectors, fabric connectors, fabric, linking bar.
- **How Used:** used to protect user from the elements.
- **Additional Terms:** parasol, sunshade, windproof, wind resistant.

2

Conduct a keyword search using Patent Public Search

- You can **begin** with a broad search for your **main concept** and then **narrow** the search results by adding **additional features** of your invention. **Review** the front pages of patents and applications (since 2001), eliminating those that are irrelevant.
- In our example, start with the umbrella.

2

Conduct a keyword search using Patent Public Search

- Go to **patent public search**.
- Type *umbrella* into the **basic search page**.
- You will get a **list** of patents using that key word.
- You can play with the search by **adding search terms** to **narrow search**.

3

Conduct an in-depth review of the documents found by your search

- **Review** in detail the complete patents and applications you found that are **similar** to your invention.
- Don't forget to review the **drawings**, **specifications** and **claims** for **similarities** to your invention.

4

Expand the search with relevant CPC classifications

- Go to the **Classification Resources** page (<https://www.uspto.gov/web/patents/classification/>) and select a CPC classification. Find a relevant classification and use it in a classification search in Patents Public Search.
- Use **Advanced Search** with the CPC field code.

4

Expand the search with relevant CPC classifications

- In this step you will **search** through the **list of patents** you get as a result of that CPC search.
- Note: you want to **find patents similar** to your idea but not exactly like yours.

5

Review cited references

- The **front page** of a patent includes a section of **cited references** provided by the applicant and/or the patent examiner.
- **Review the patents** and applications that a patent has cited and/or the patents that have cited them since publication.
- Use Patent Public Search to **look them up**.

6

Broaden your search to find additional patent and non-patent publications

- **Search** for foreign patent documents (<https://worldwide.espacenet.com/>)
- **Search** US patent using **USPC**.
(While no longer being used, there are over 100 years of patent documents using USPC)
- **Search** for patents using **keywords**.*
(to find patents which were poorly classified or for which classification has changed over time)
- Search in **non-patent literature**. (books, magazines, journals, websites, catalogs)
- **Consult** a patent attorney or agent.

6

Broaden your search to find additional patent and non-patent publications

Limitations of keyword searching

- **Vague** or inconsistent terminology.
“ball” vs “generally spherical object”
- **Obsolete** names or terms.
“LP,” “hi-fi,” “laserdisc,” “water closet”
- Different **meanings** in different fields.
“mouse” (animal) vs “mouse” (for a computer)
- **Synonyms**.
“rodent extermination device”
- Keyword search is limited to patents after 1970. (so keyword searching misses anything prior to that date)

Multi-Step Patent Search Strategy

1. Brainstorm terms to **describe** your invention based on its purpose, composition and use.
2. Conduct a keyword **search** using Patent Public Search.
3. Conduct an in-depth **review** of the documents found by your search.
4. **Expand** the search with relevant CPC classifications.
5. Review cited **references**.
6. **Broaden your search** to find additional patent and non-patent publications.

Other useful resources on the PTO website

Official Gazettes

- Listing of newly granted patents published each Tuesday by the PTO.

The screenshot shows the USPTO website header with the logo and navigation links. The 'Learning and Resources' menu is expanded, showing a list of links. The 'Official Gazette' link is highlighted with a red box.

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- Fees and Payment
- General FAQs
- Patents FAQs
- Trademark FAQs
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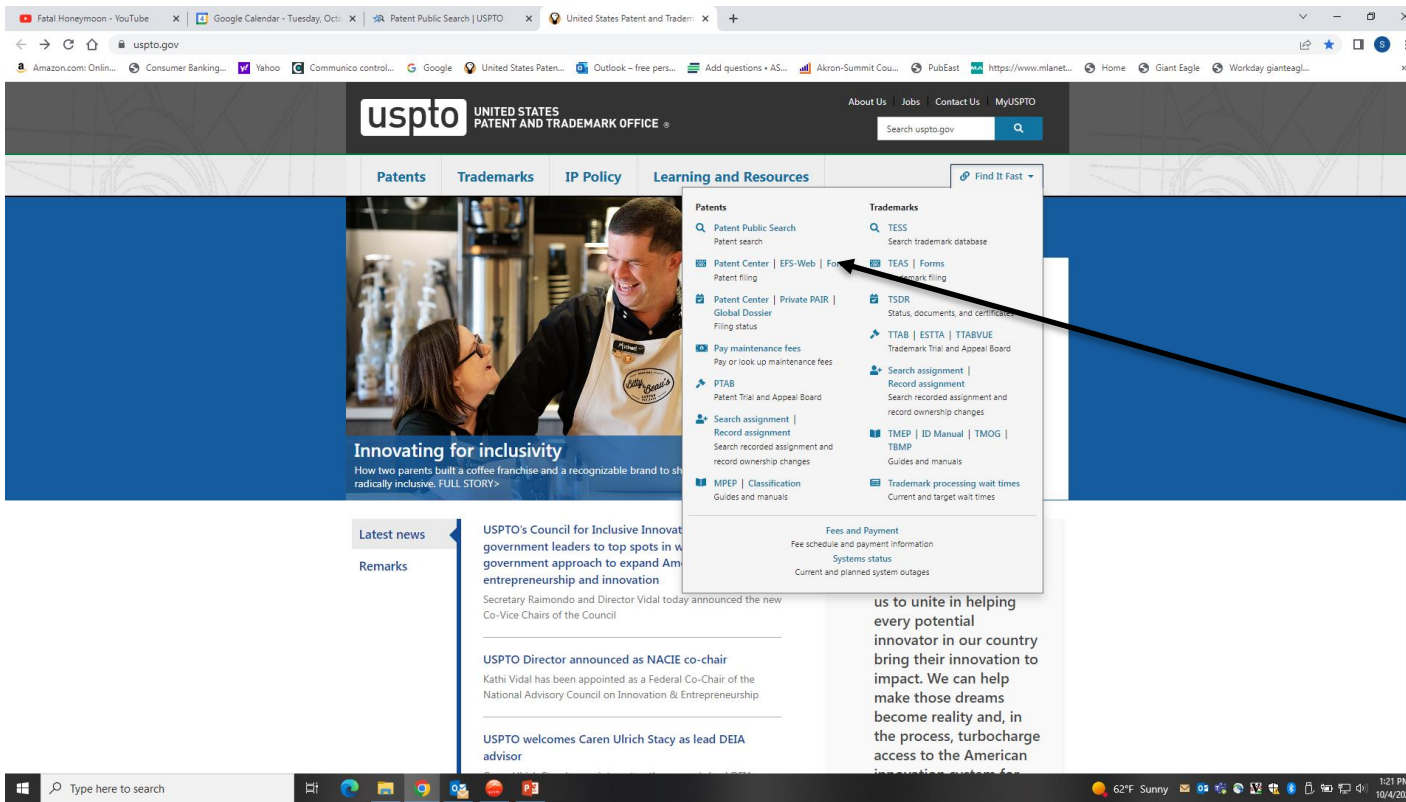
- Electronic Data Products
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- XML Resources
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Tools & Links

- Operational Status
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- IP Programs and Awards
- More Tools & Links
- Glossary of Terms
- How-to Videos
- Executive Actions

Other useful resources on the PTO website

Forms

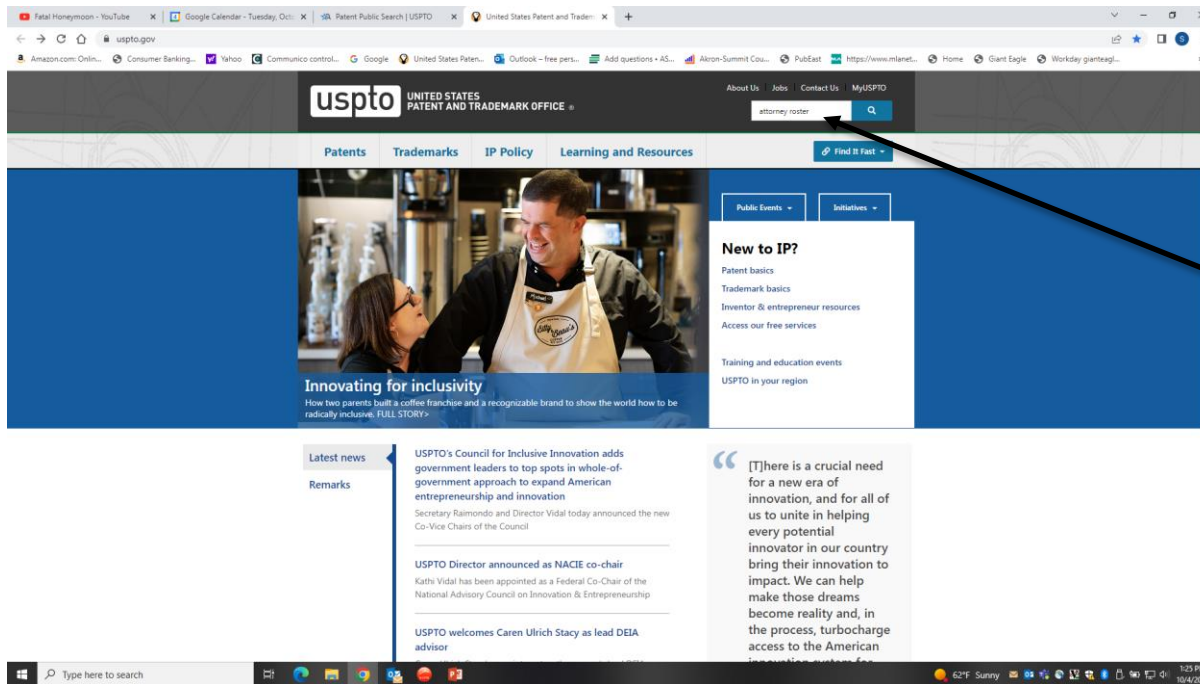


Other useful resources on the PTO website

Patent Attorneys & Agents

We cannot recommend one person over another

- Type “Attorney Roster” in search box.



Other useful resources on the PTO website

Inventors Resources Page

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Getting started

- › Patent basics
- › Process overview
- › Legal assistance and resources
- › Inventor and entrepreneur resources**
- › International cooperation
- › Patent FAQs

Application process

- › Search for patents
- › Learn about patent classification
- › Filing online
- › Checking application status
- › Responding to Office actions
- › Patent Trial and Appeal Board
- › Petitions

Maintaining a patent

- › Maintenance fees
- › Correcting your patent
- › Transferring ownership
- › Ordering certified documents

Tools & links

- About EFS-Web**
File a patent application online with EFS-web
- Check application status**
Check patent application status with public PAIR and private PAIR
- Fees and payment**
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View international patent filings

More tools & links

Learn the basics of intellectual property.

Patent basics >

Trademark basics >

8/7/2023 An end to darkness

Resources & Contacts

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Search uspto.gov

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Home > Learning and Resources > Inventor and entrepreneur resources Share Print

INVENTOR & ENTREPRENEUR RESOURCES

- Get started**
Learn about types of intellectual property (IP) and how to protect your idea or product.
 - > Types of IP protection
 - > Attend a free training
 - > Patents basics
 - > Trademark basics
- Before you apply**
Search existing patents and trademarks to find out if your idea is unique. If it is, create an account.
 - > Search patents
 - > Search trademarks
 - > Create an account to apply
- Get help to apply**
Set yourself up for success by learning via USPTO's free resources and find expert help.
 - > Access our free services
 - > Find resources near you
 - > Find a patent attorney
 - > Do I need a trademark attorney?
- Apply for IP rights**
Submit your application for a patent or trademark. See if you qualify for reduced patent fees.
 - > Apply for a patent
 - > Apply for a trademark
 - > Costs to file
 - > Reduced patent fees

Feedback

Type here to search

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Provisional Application for a Patent

- Is entirely **optional**.
- Allows you to **establish** an **earlier filing date**.
- Allows you to use the term “**Patent Pending**”.
- Lasts for **one year from date** of provisional application (does not become a full patent application).
- You must file a **full patent application** to proceed.
- Are not published, there is **no way to search these**.

Keeping Track

Q: I've decided I want to apply for a patent... what do I do now?

A: Begin or continue an **inventor's notebook**

- Use a **bound** notebook (spiral or sewn in binding).
- Make **notes** in ink about **each step** of your inventing or research process, **sign and date them**.
- **Include**
 1. Your idea and how you got it.
 2. Problems you have and how you solve them.
 3. Add sketches and drawings to make things clear.
 4. List all parts, sources, and costs of materials.
 5. steps and results of your preliminary patent search.

Resources & Contacts

Producing a Prototype

- **Akron Makerspace**
540 S Main St Suite 951
Akron, OH 44311
330-597-3111
akronmakerspace.org
- **TechZone@Main**
Akron-Summit County Public Library
60 S High Street Akron, OH 44326
330-643-9145

Resources & Contacts

Making Money with your Invention

Licensing vs. Venturing: sell your patent rights to someone else to produce, or manufacture and sell yourself?

Inventors often do not have the skills needed to be an entrepreneur. Some things to research before starting a business are the need for your product, the technical feasibility of producing your product, and your competition. You need to be considering marketing and promotion, including second opinions, test markets, surveys, industry consultants, current trends, and trade shows. The Library's Business, Government & Science Division, 330-643-9020, can provide information on starting a business.

Some sources for local assistance are:

- **BOUNCE Innovation Hub**
<https://bouncehub.org/>
- **Akron Score Chapter 81**
www.akronscore.org
- **Inventors Assistance Center**
on the USPTO website uspto.gov
- **Microbusiness Center**
Akron-Summit County Public Library
330-802-0839

Resources & Contacts

Additional Resources

- **U.S. Patent & Trademark Help Line**
1-800-PTO-9199
- **NOLO** (publisher of self-help legal manuals, great website)
www.nolo.com
- **Inventor's Digest Magazine**
www.inventorsdigest.com
- **United States Small Business Administration**
www.sba.gov
- **Google Patents**
patents.google.com
- **World Intellectual Property Organization**
<https://www.wipo.int/portal/en/index.html>
- **Espacenet (European Patent Office)**
<http://worldwide.espacenet.com/>
- And, of course, us!
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Business Government & Science
Division, Main Library
330-643-9020
email: bgdiv@akronlibrary.org



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