

Patent Search - Tips Tricks & Tools



Agenda

- Introduction
- History - The Ages of Patent Search
- Keyword Search
- Classification Code Search
- Keyword & Classification Code Search
- Citation Search
- Assignee/Inventor Search
- Construction vs. Functionality Approach
- Some Handy Free Patent Tools



Introduction

- A Patent search helps in identifying if an invention to which a patent application relates, is patentable or not.
- Patent searching is an art that requires both technical and patent knowledge, the ability to read and understand technical information in patent language to conduct a search for locating prior-art.
- With millions of patents publishing every year, the patent search is seeing a new era with automated databases and highly advanced tools.
- This material helps you with the patent search using
 - o keywords,
 - o classification codes & combination and
 - o a few patent tools use

History - The Ages of Patent Search

➤ Stone Age

- A manual index search was performed in the public search room at USPTO / Satellite search rooms at Patent and Trademark Depository Libraries (PTDL)
- Patents were classified into relevant classification titles (class) and stored in a shoe-box, since then the patent classification codes came into existence
- Later Microfilms & then CD-ROMs were used to store the patent data

You can search manually in the library of the USPTO in Arlington, Virginia, or in one of the USPTO depository public libraries in major U.S. cities. Begin by thumbing through reference manuals, such as the *Manual of Classifications*, for a list of patents to look at. Then get paper copies of those patents, kept by class in so-called "shoe boxes." In a depository library, you must look through microfilm copies of the patents.

History - The Ages of Patent Search

➤ **Computer era**

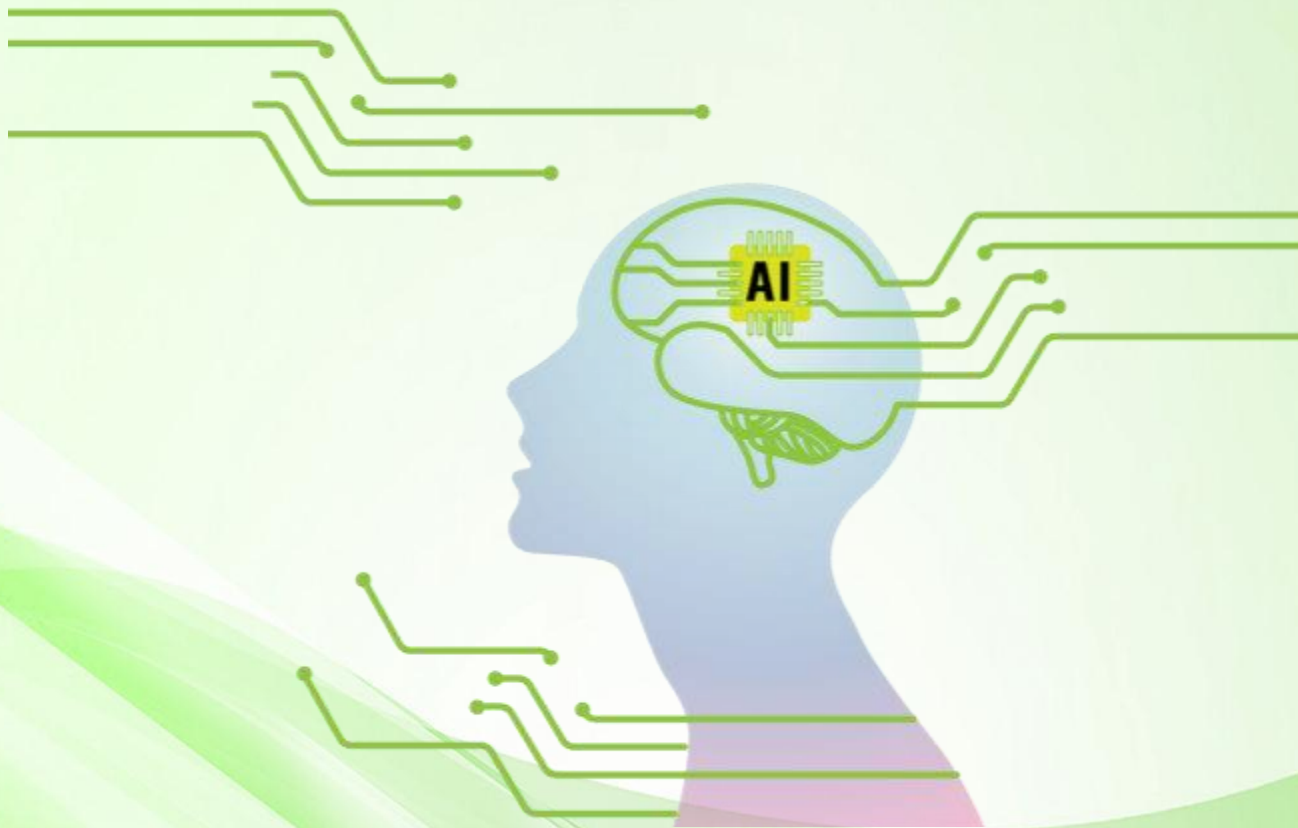
- With computerization, the patent search was well-fixed with syntactical / command-based search using different computer patent databases



History - The Ages of Patent Search

➤ Artificial Intelligence era

- High-end tools made patent search user-friendly with huge patent volume searchable online at great speeds



Keyword-based Search

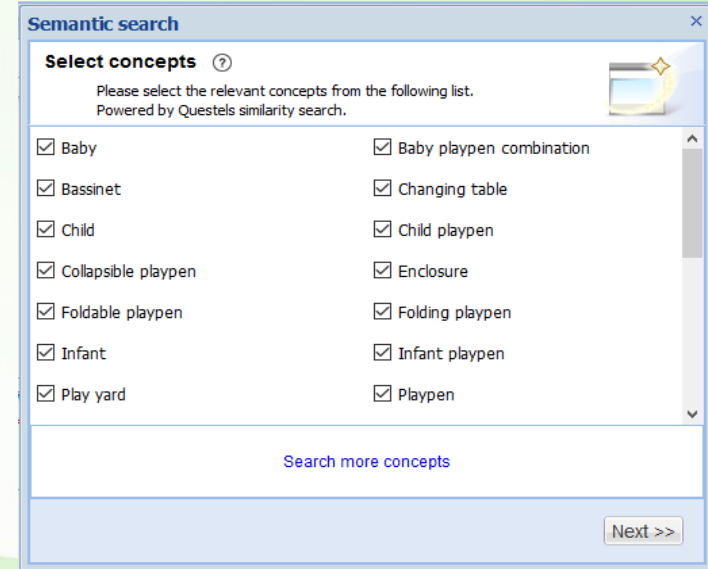
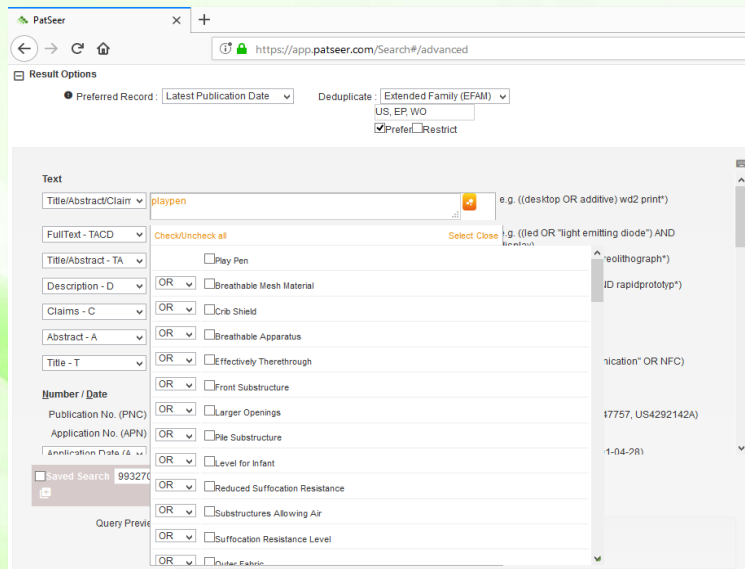
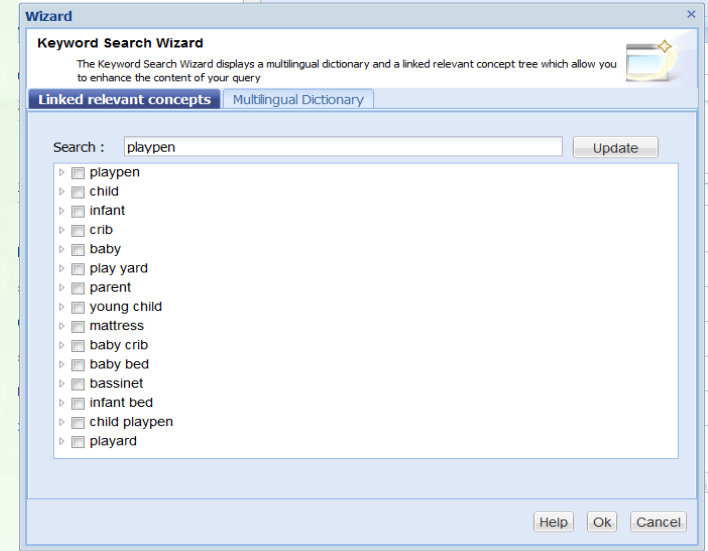
- **Keywords** - A right keyword at right place helps a searcher in getting an appropriate prior-art
 - Search and collect all appropriate synonyms of keywords
 - Prepare search strategies with proper syntax and truncations, covering all verb forms of keywords
 - The disadvantage with keyword search alone is, it yields high volume data which has to be scanned/filtered further to find a right prior-art



Keyword-based Search

➤ How to find keywords?

- Use thesaurus, synonym finder
- Use keyword suggesting tools provided by different patent databases
- Shown here are the keyword suggesting tools by Questel Orbit, Patseer and Derwent Innovation patent databases



Classification Code Search

➤ Classification codes

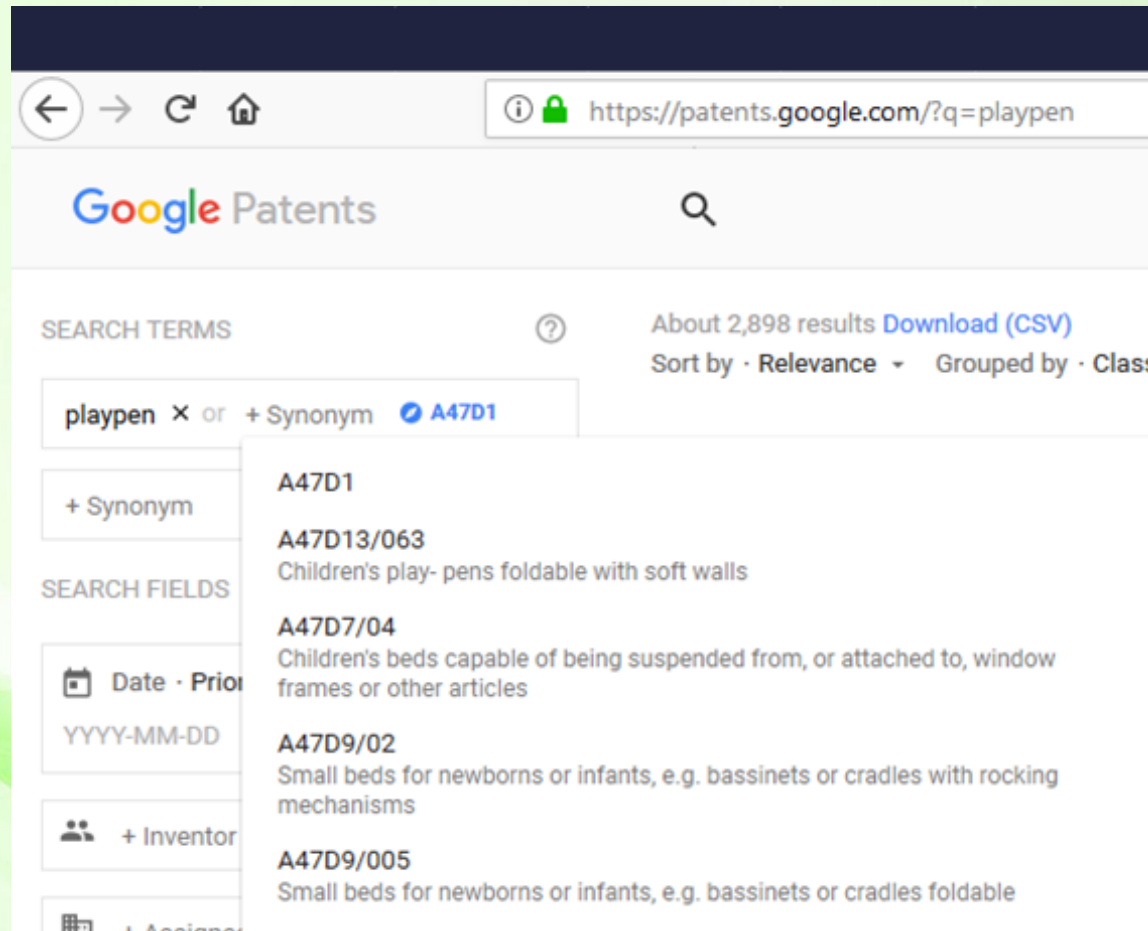
- A single classification code can substitute all possible keywords falling in that area
- Finding a right classification code consumes time, but a search conducted with the proper classification code reduces the time being spent on a search drastically.
- A classification code retrieves patents specific to an inventive concept



Classification Code Search

➤ How to find classification codes?

- **Google patents:** Put a keyword, Google automatically suggests codes



The screenshot shows a Google Patents search interface. The search bar contains the term "playpen" with a dropdown menu displaying suggested classification codes. The browser address bar shows "https://patents.google.com/?q=playpen". The search results page indicates "About 2,898 results" and offers options to "Download (CSV)", "Sort by", and "Grouped by".

SEARCH TERMS ⓘ About 2,898 results [Download \(CSV\)](#)
Sort by · Relevance ▾ Grouped by · Class

playpen × or + Synonym [A47D1](#)

+ Synonym

SEARCH FIELDS

📅 Date · Prior
YYYY-MM-DD

👤 + Inventor

🏢 + Assignor

A47D1

A47D13/063
Children's play- pens foldable with soft walls

A47D7/04
Children's beds capable of being suspended from, or attached to, window frames or other articles

A47D9/02
Small beds for newborns or infants, e.g. bassinets or cradles with rocking mechanisms

A47D9/005
Small beds for newborns or infants, e.g. bassinets or cradles foldable

Classification Code Search

➤ How to find classification codes?

- **Direct search from IPC/CPC:** Put a keyword and hit search button, classification codes with those keywords will be displayed.

net.com/classification?locale=en_EP#!/q=playpen

line services ▾
patents list (0) Query history Settings Help

Cooperative Patent Classification

Search for View section | Index | A | B | C | D | E | F | G | H | Y |

Symbol	Classification and description
★ ★ ★ ★ ★ <input type="checkbox"/> A47D 13/00	Other nursery furniture (auxiliary or portable toilet seats for children A47K 13/06)
★ ★ ★ ★ ★ <input type="checkbox"/> A47D 7/00	Children's beds (beds in general A47C)
★ ★ ★ ★ ★ <input type="checkbox"/> Y10T 403/00	Joints and connections
★ ★ ★ ★ ★ <input type="checkbox"/> A47D 9/00	{Small beds for newborns or infants, e.g. bassinets or} cradles
★ ★ ★ ★ ★ <input type="checkbox"/> A63H 33/00	Other toys
★ ★ ★ ★ ★ <input type="checkbox"/> A47D 15/00	Accessories for children's furniture, e.g. safety belts (holders for {baby bottles or} bottles for medicinal feeding A61J 9/06 ; safety belts or body harnesses, in general A62B 35/00 ; { infant exercisers attachable to play-pens, beds or cradles A63H 33/006 }; safety belts or body harnesses in land vehicles B60R 22/00 ; harnessing in aircraft B64D 25/06)
★ ★ ★ ★ ★ <input type="checkbox"/> A47D 11/00	Children's furniture convertible into other kinds of furniture, e.g. children's chairs or benches convertible into beds; {Constructional play-furniture} (convertible furniture in general A47B 85/00)
★ ★ ★ ★ ★ <input type="checkbox"/> A63B 5/00	Apparatus for jumping (mats for jumping A63B 6/00 ; for racing or riding sports, e.g. hurdles A63K)

WIPO
WORLD INTELLECTUAL PROPERTY

Home References International C

playpen

Results

Ordered by relevance:

- [A47D 13/06](#)
- [A47D 15/00](#)
- [A47D 7/00](#)
- [A47D 9/00](#)
- [A47D 7/04](#)

Classification Code Search

➤ How to find classification codes?

- **Index search from US/IPC:** Parse through the Index/catchword to find appropriate class code

WIPO
WORLD INTELLECTUAL PROPERTY ORGANIZATION

Home References International Classifications International Patent Classification IPC Publication

An IPC Symbol or terms

Scheme RCL Compilation **Catchwords**

2018.01 Version

English version
French version

IPC PUB v7.4 - 14.12.2017
CPC o8.2017, FI o1.04.2017

A	
+	ABACUSES - ADHESION
+	ADHESIVE(S) - ALKALI METALS
+	ALKALINE EARTH METALS - ANEMOMETERS
+	ANEROID - ANTI-TOXINS
+	ANVILS - ASPIRATOR
+	ASSEMBLIES - AWNS
+	AXES - AZOXY
B	
+	BABIES - BARIUM
+	BARK - BEAUTY
+	BECKMANN - BISMUTH
+	BISULFITES - BOLT(S)
+	BOMBS - BRASSIERES
+	BRAZIER(S) - BUILDING(S)
+	BULBS - BUZZERS

United States Patent and Trademark Office

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Patents > Guidance, Tools, and Manuals > Classification > USPC Index

Class Numbers & Titles | Class Numbers Only | USPC Index | International | HELP

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

View as PDF

A-Frame Structure	D25 / 29
Abacus	434 / 203+
Design	D18 / 6+
Abattoir See Butchering	
Abdominal Supporters	450 / 94+
Abietic Acid	562 / 404+
Esters	560 / 7
Naturally occurring mixtures	530 / 200+
Abietyl Alcohol	568 / 714
Abiactive Fluids	169 / DIG 2
Abort	
Indicator of aborted start	431 / 15
Motor with abort means	60 / 379

Classification Code Search

- **US/IPC/CPC Concordance:** Have a US code? Find it's equivalent IPC/CPC code using concordance feature

United States Patent and Trademark Office
Home | Site Index | Search | FAQ | Glossary | Guides | Contacts | eBusiness | eBiz alerts | News | Help

Patents > Guidance, Tools, and Manuals > Classification > US Classes by Number with Title Menu

Class Numbers & Titles | Class Numbers Only | USPC Index | International | HELP | Office of Patent Classification

1. Select what you want...

- Class Schedule (HTML)
- Class Definition (HTML)
- US-to-IPC8 Concordance (HTML)
- US-to-Locarno Concordance
- Class Schedule (PDF)
- Class Definition (PDF)
- US-to-IPC8 Concordance (PDF)

uspto

Search Patent Classification Systems

Classification | CPC | USPC | Classification Revision | Advanced Search | Contacts | Help

Access Classification Information by Symbol

Select Classification System: CPC USPC

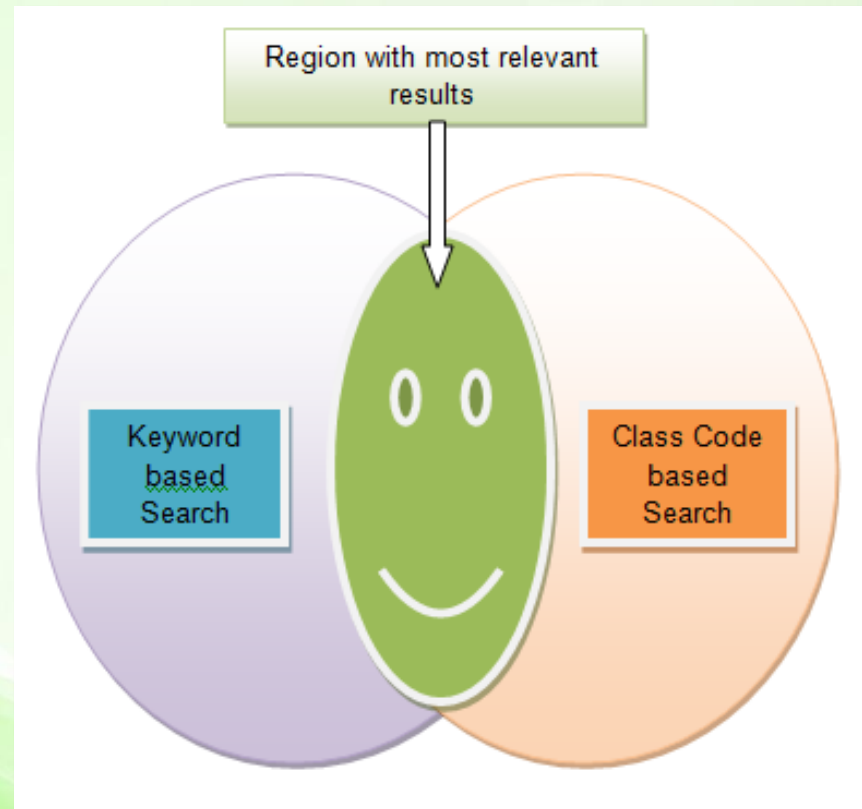
Enter Classification symbol: e.g., B02C or D06P 1/5264

Select Content:
Scheme
Definitions
CPC to IPC Concordance

Keyword & Classification Code Search

➤ Keyword & Classification Code Combination

- Combining a keyword with a classification code gets a relevant prior-art quickly



Citation Search

- **Patent Citations** - Patent citations can include backward citations (cited patents) or forward citations (citing patents)
- **Backward citation search:** Earlier published patents available before the publication of a patent application are backward citations.
 - Searching for backward citations can help you find closely related patents and literature. Analyzing the backward citations of all patent family members can be helpful since different patent examiners cite different backward citations.
- **Forward citation search:** Recent published patents available after a patent's publication are forward citations.
 - Searching for forward citations can reveal the continuations, updated technology in a particular field.

Assignee/Inventor Search

- **Assignee/Inventor** – An assignee/inventor working on a technology always keeps improvising/advancing the existing technology
 - If you are searching for an art, try to find the major players in that area and review the patents of those players
 - Finding patents associated with an inventor or assignee may help you understand the work being done by that inventor/assignee



Construction vs. Functionality Approach

➤ Construction and Functionality

- If a scenario arises where fine art is not available/discovered, then there comes the use of construction vs. functionality approach
- No relevant art is found for a product with construction "C1" and functionality "F1", then look for a construction "C2" achieving the same functionality "F1" or the construction "C1" achieving a functionality "F2"



Some Handy Free Patent Tools

➤ Patent Claims Tree Tool

- Tired searching legal status & assignment info, with patent claims tree add-on it's easy

The screenshot shows the Google Patents interface for patent US 8376589 B2, titled "Layered dimmer system". The page includes an abstract, publication details, and a list of images. A red-bordered overlay titled "Claims Tree - US8376589" is positioned on the right side of the page. This overlay provides a hierarchical view of the patent's claims, starting with Claim 1 (177) device, which is dependent on Claim 2, which in turn is dependent on Claim 5, and so on, up to Claim 18. The overlay also includes links for USPTO Assignment, USPTO Maintenance Fees, and US Patent Litigation (Google Search). At the bottom of the overlay, there is a copyright notice for Wolf Mountain IP, LLC and a reference to The Patent Analyst blog.

Claims Tree - US8376589
(3 Independent | 15 Dependent | 18 Total)
Priority Date: Jun 30, 2008

[USPTO Assignment](#)
[USPTO Maintenance Fees](#)
[US Patent Litigation \(Google Search\)](#)
Google Patents: [New](#) | [Legacy](#) | [Prior Art Finder](#)
[FreePatentsOnline.com](#)

Claim 1 (177) device
+-----2
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 +-----4

Claim 11 (162) method
+-----12
+-----13
 +-----14

Claim 15 (124) device
+-----16
+-----17
+-----18

[Options...](#)

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See [The Patent Analyst blog](#) for patent analysis and patent program processes and best practices.
(Not all formats of multiple dependent claims are supported.)

Some Handy Free Patent Tools

- **Patent Monk Tool**
 - OCR'ed larger, interactive drawings linked to patent text

DESCRIPTION OF EMBODIMENTS

FIGS. 2A to 2D are cross-sectional views of invention.

First, referring to **FIG. 2A**, a substrate **200** is a dielectric layer **206** and a metal interconnect in the non-capacitor region **204**. The material lithography processes and device speed re coating material, etch hard mask material of **206** is, for example, a chemical vapor depos metal, such as copper. A forming method of Afterwards, a passivation layer **210** is option example, silicon nitride. A forming method Then, a butting conductive layer **212** is form electrode in the capacitor structure to a first bias. The material of the butting conductive layer **2** aluminum. A forming method of the butting conductive layer **212** includes, for example, forming through a physical vapor deposition (PVD) process, and then performing a patterning process or

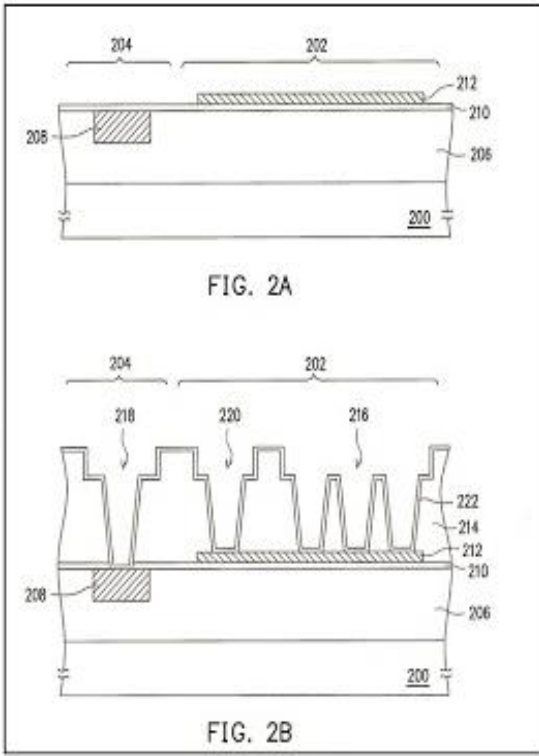


FIG. 2A shows a cross-sectional view of a substrate 200 with a dielectric layer 206 and a metal interconnect 208 in a non-capacitor region 204. A passivation layer 210 is formed over the substrate. A butting conductive layer 212 is formed on the passivation layer 210 in a capacitor region 202.

FIG. 2B shows a cross-sectional view of the device structure after further processing. The butting conductive layer 212 is patterned into a series of electrodes 216. A dielectric layer 218 is formed over the electrodes 216. A metal interconnect 214 is formed over the dielectric layer 218. A passivation layer 222 is formed over the metal interconnect 214. The substrate 200, dielectric layer 206, and metal interconnect 208 are also shown.

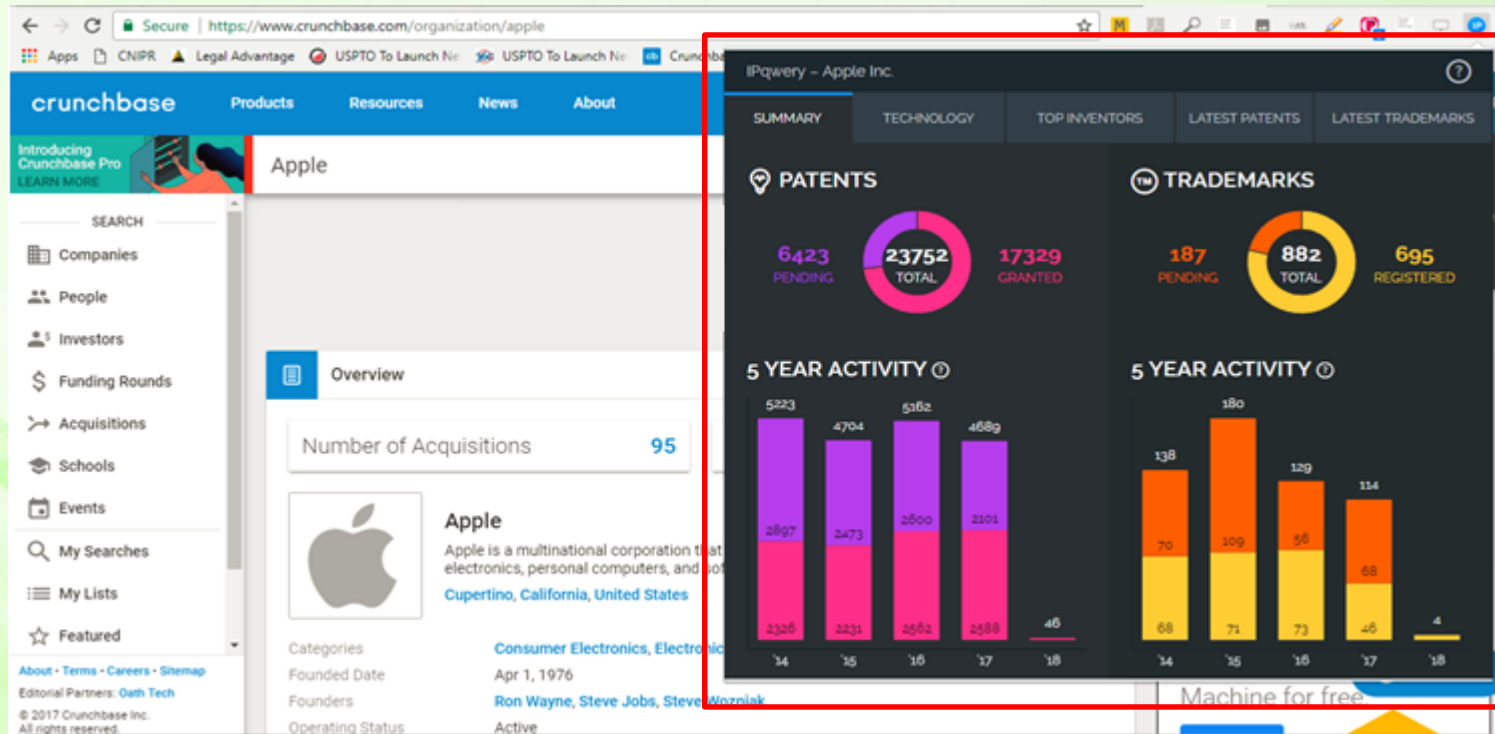
Drawing 3

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Some Handy Free Patent Tools

➤ IPQwery CrunchBase

- This tool automatically shows the patent and trademark holdings of any company profile.
- View recent filings, technology summaries, and inventors within a Company.
- Explore individual trademarks or patent details, with links to USPTO records



Reach us

If you would like to contact us for any additional information, feel free to call... or reach us through e-mail at inbox@legaladvantage.net

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- Thank you!