PEARSON STRATEGY

Daring to Do Your Own Patent Searches

Steve Pearson

The Pearson Strategy Group, LLC

Meet Steve

- Founder: **The Pearson Strategy Group, LLC**
- Founder: **Visionex Holdings, LLC**
- 10+ years of research and consulting
- Sole inventor of three US patents
- University of Texas at San Antonio, B.S.E.E.
- Mentor for Profit Movers and TechShop
- Officer: IEEE Power and Energy Society
- Reactor Operator on Navy sub

Taken on US 12 east of Kooskia, Idaho (2016)

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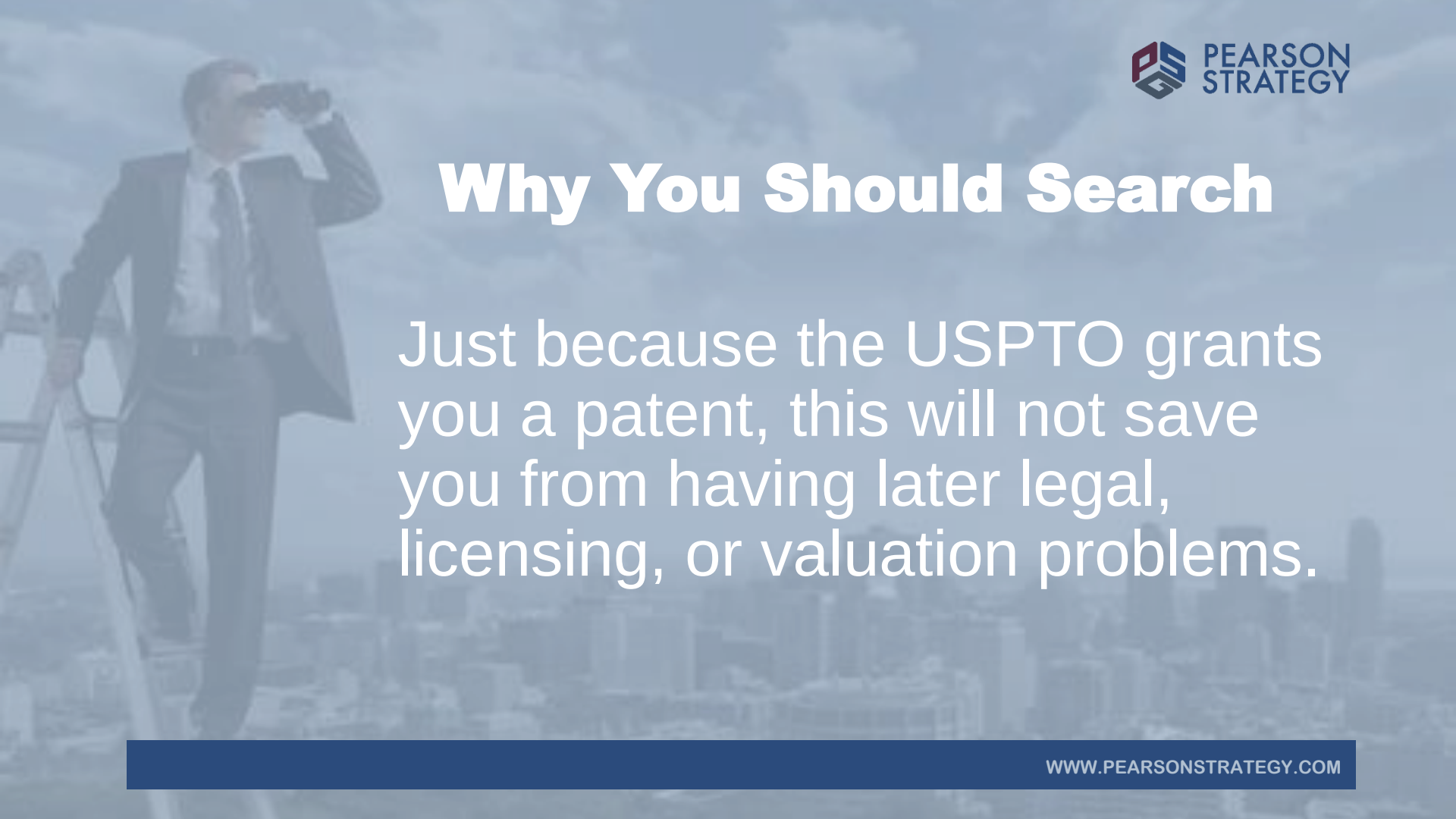
Today's Agenda

- Why you should search
- Patent research - background
- Patent research - DIY steps



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Why You Should Search

Just because the USPTO grants you a patent, this will not save you from having later legal, licensing, or valuation problems.

Why Do Patent Research?

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Patent research is the fastest, cheapest, best investment you can make when developing a new idea.

- Reduce your costs
- Find and create new ideas for improving your idea/product
- Raises your patent's quality and valuation
- Assess your opportunity
- Expand your markets
- Weigh your risks
- Identify competitors/allies

Patent Boundaries Can Be Murky

Charles O'Rear (Wikimedia)

Changing Landscape of Intellectual Property

84%

"Annual Study of Intangible Asset Market Value" Ocean Tomo, LLC (3/5/15), used with permission

Litigation Risks

$1,000,000

2013 Report of the Economic Survey IPSIC, used with permission

A Few Patent Facts

- 5 million patents/applications are published annually and 25% are in the US
- 18 month publication “lag” after filing is typical. Research today and then refresh at least every 12 months
- 2-3 years “pendency” to obtain a patent

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Patent Research - Background

- You can do your own patent research…but this is NOT recommended when making significant **financial**, **product** or **legal** decisions
- Patent research is a statistical exercise
- Know how much time you can devote
- Know how much risk is acceptable
- Keep notes!

"Remember kids, the only difference between Science and screwing around is writing it down."

Adam Savage (2012); Adam Savage at Reason Event (Wikimedia)

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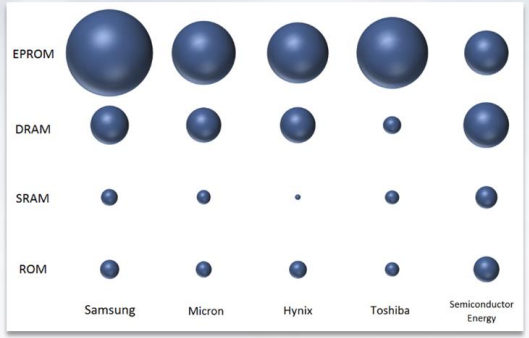
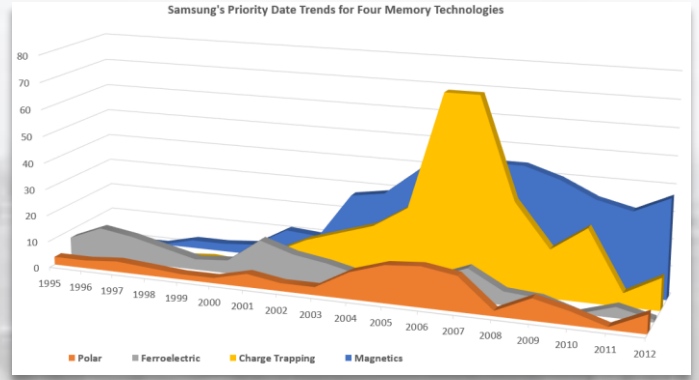
Common Prior Art Searches

- **Patentability (Novelty) -** Look at worldwide IP, technology research, news, internet, etc.
- **Freedom to Operate (Infringement; clearance)** - Focus on US patents within the past ~20 years and US applications within past ~5 years.
- **Invalidity (validity)** - Look worldwide at anything predating the priority date of the patent you're trying to invalidate
- **State of the Art** - Look at the most recent IP in a technology space to identify opportunities.
- **Ownership** - Insert company name here.

Less Common Prior Art Searches

- **White space** - Identifies today's opportunities.
- **Green space** - Identifies future opportunities.



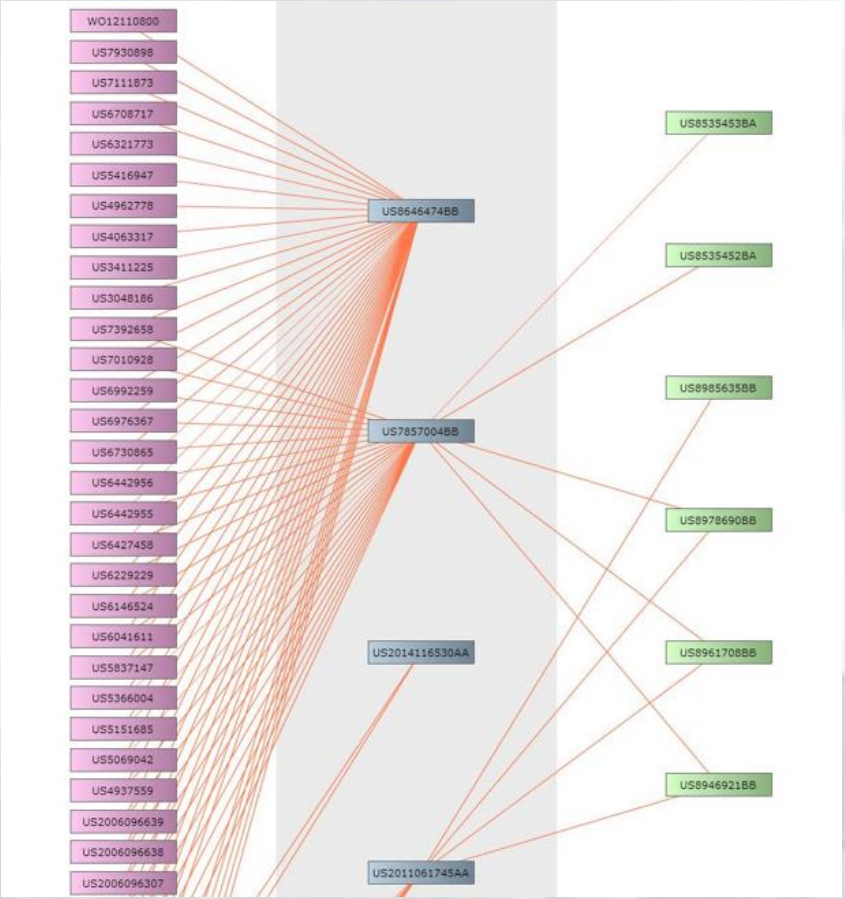


Life Cycle Curve, Krantzmh (Wikimedia)

What is a Family?

Publication number	Publication date	Application number	Application date
AU199472552 A1	19950124	AU19940072552	19940630
AU694127 B2	19980716	AU19940072552	19940630
CA2103650 AA	19950103	CA19932103650	19930805
CA2103650 C	19980721	CA19932103650	19930805
CN1050510 C	20000322	CN19941093017	19940630
CN1128491 A	19960807	CN19941093017	19940630
DE0706342 T1	19970410	DE19940922089T	19940630
DE69423759 D1	20000504	DE19946023759	19940630
DE69423759 T2	20001214	DE19946023759T	19940630
EP0706342 A1	19960417	EP19940922089	19940630
EP0706342 B1	20000329	EP19940922089	19940630
ES2147578 T3	20000916	ES19940922089T	19940630
HK1013941 A1	20010112	HK19980115368	19981224
JP3191876 B2	20010723	JP19950503680T	19940630
JP8512109 T2	19961217	JP19950503680T	19940630
PH31273 A	19980618	PH19940048563	19940701
PH31273 A	19980618	PH19940000485	19940701
SG43144 A1	19971017	SG19960094371	19940630
SG43144 A1	19971017	SG19960004371	19940630
US5417272 A	19950523	US19930087569	19930702
WO9501119 A1	19950112	WO1994US07539	19940630

Family Citations



Backward Citations 1 Family Forward Citations

United States Patent [19]

Malewicki et al.

[11] Patent Number: 5,052,680

[45] Date of Patent: Oct. 1, 1991

[54] **TRAILERABLE ROBOT FOR CRUSHING VEHICLES**

[75] Inventors: **Douglas J. Malewicki**, Irvine; **Philip C. Emmons**, Anaheim; **Robert M. Kubinski**, Garden Grove, all of Calif.; **Douglas D. Schumann**, Southington, Conn.

[73] Assignee: **Monster Robot, Inc.**, Malibu, Calif.

[21] Appl. No.: **477,042**

[22] Filed: **Feb. 7, 1990**

[51] **Int. Cl.**[5] **A63G 31/00**

[52] **U.S. Cl.** ..... **272/1 R**; 446/376; 446/465; 280/1.16; 100/233

[58] **Field of Search** ..... 272/1 R; 446/93-95, 446/97, 99, 102, 104, 268, 269, 289-291, 376, 431, 465, 470, 487; 280/1.1; 100/233

[56] **References Cited**

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3,093,372	6/1963	Cirami	272/34
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4,623,317	11/1986	Nagano .	
4,682,969	7/1987	Choy et al.	446/376
4,697,509	10/1987	Labounty .	

Primary Examiner—Richard E. Chilcot, Jr.
Attorney, Agent, or Firm—James Bartholomew

[57] **ABSTRACT**

A mechanical robot having hydraulically operated arms, mandible claws, neck, head and jaw, resembles a giant prehistoric reptile. It is driven from an on-board cockpit and is capable of picking up an automobile and crushing it, then biting into it with large teeth located within a powerful jaw. Various audible and visual effects are produced during operation thereby generating a frightful spectacle for exhibition, promotion and entertainment. The robot is capable of folding into a rigid structure and being attached to a trailer tractor for road hauling on its own wheels.

19 Claims, 11 Drawing Sheets

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Title Page

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to FIGS. **1** through **6**, there is shown a robot **10**, a mechanical animated figure, constructed of heavy duty steel structural members **15**. Body **40** is pivotally mounted upon tail **110** and supported therefrom by legs **20** and **30**. Arms **50**, **60** and neck **70** are pivotally supported from the body **40**. The arms **50**, **60** comprise upper arms **53**, **63**, wrists and forearms **55**, **65** and claws **58**, **68**. A head **80** pivotally supports a jaw **90** and is, in turn, pivotally supported upon the neck **70**. Two ears **100** are pivotally supported upon the head **80**. FIG. **2** shows locations of fire **130** produced by flame generating means **780** and smoke **140** produced by a smoke generator **430** (FIG.). Propane storage tanks **700** are mounted inside of the right leg **30**.

With reference to FIG. **3**, the robot **10** is shown in the operating mode, that is with the body **40** erect. The tail **110** is pivotally mounted upon a trailer chassis **114** which is free to rotate as a caster while rolling upon rear trailer wheels **112B**. Forward trailer wheels **112A** are raised above an underlying road surface **115** by deflated air suspension bags **117**. The left leg **20** is supported upon left drive wheels **21**. The left Arm **50** is comprised of the left upper arm **53**, the left wrist and forearm **55** and the left claw **58**. The left and right arms **50**, **60** and the legs **20**, **30** are, with respect to structure, mirror

Description

1. A trailerable robotic figure comprising a body and a tail mounted upon at least one pair of forward wheels and at least one pair of rear wheels, said body being hinged to said tail for movement of said body between an erect exhibition position and a lowered trailerable position wherein a portion of said body extends forwardly of said tail and includes attachment means for pivotal connection to a tractor for hauling said robotic figure over roads.

2. The robotic figure of claim 1 wherein said tail includes a pair of hinged support legs for movement between an inward mutually proximal position for trailering and a spread apart position for exhibition, said legs being supported upon said forward wheels.

3. The robotic figure of claim 1 wherein said body includes a head with jaw pivotally mounted thereon, said jaw having said attachment means mounted thereon.

4. The robotic figure of claim 3 wherein said body includes at least one arm for grasping and lifting heavy objects from ground level to said jaw, said arm being constructed for crushing said heavy objects.

5. The robotic figure of claim 3 whereby said jaw includes means for crushing said heavy object.

6. The robotic figure of claim 1 further comprising flame generating means.

7. The robotic figure of claim 1 further comprising a cockpit for a human operator and motion and drive control actuators for selecting animation movements of said robotic figure.

8. A trailerable robotic figure comprising a body and a tail mounted upon at least one pair of forward wheels and at least one pair of rear wheels, said body being hinged to said tail for movement of said body between an erect exhibition position and a lowered trailerable position wherein a portion of said body extends forwardly of said tail and includes attachment means to a tractor for hauling said robotic figure over roads, said tail further comprising a pair of hinged support legs for whereby said figure is trailerable on said rear wheels while being pulled by said head.

11. A robotic figure having the appearance and size of a dinosaur, comprising a body, a head having pivoted jaw and ears, a neck connecting said body with said head, two rotatable arms with articulated forearms, wrists and claws, a tail providing hinged support to said body, two legs hingibly attached to said tail supporting thereon drive wheels individually driven for providing forward thrust and steering during exhibition and at least one pair of rear wheels mounted as a caster to said tail for improved mobility, said body movable between an erect exhibition position and a lowered trailerable position wherein said head may be pivotally attached to a trailer tractor for hauling said robotic figure over roads while at least one compression strut which when inserted between said head and said body or between said body and said tail or both, provides rigidization of said figure for trailering and provides hunching of said figure thereby lifting said forward wheels off said road whereby said figure is trailerable on said rear wheels while said legs are moved to a new inward mutually proximal position for trailering from a former spread apart position for exhibition, said arms and said jaw being constructed for crushing a heavy objects, said figure further comprising flame and smoke generating means for burning said heavy objects and for visual effect, and a cockpit for a human operator, said cockpit having drive and control actuators whereby said operator can select animation movements and special effects of said robotic figure.

12. The robotic figure of claim 11 further comprising a separate remote control wherein said drive and control actuators may be operated from a remote location.

13. The robotic figure of claim 11 further comprising a video camera and transmitter whereby a camera image view from said head can be transmitted for remote projection.

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Claims

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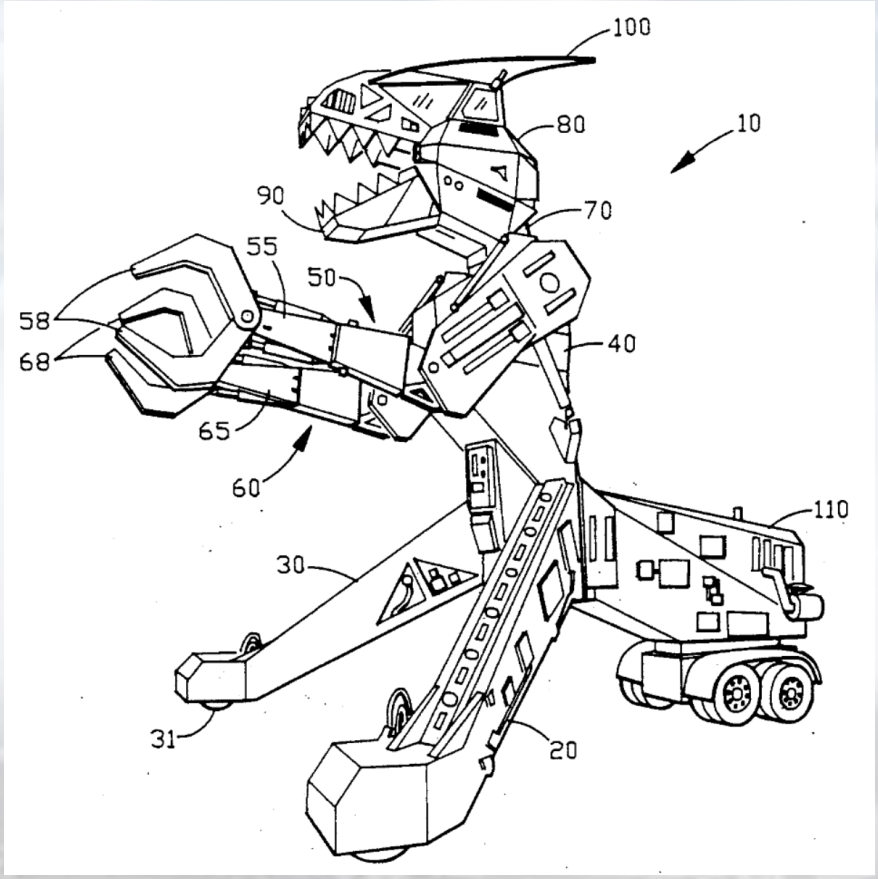

Drawings

Pros and Cons of Free Engines

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	Non-US Coverage?	US Patents (Full Text)	US Apps (Full Text)	Advanced Searches?	PDF	Comments
Google	JP, CN, EP, WO, DE, CA	> 1790	> 2001	Yes	Yes	Has several week delay use: "with at least one of the words" use Google Scholar for alerts
USPTO	No	> 1976	> 2001	Yes	No	Seperates application & patent searches Patent Application Information Retrieval (PAIR)
Fresh Patents	No	?	?	No	Yes*	*require login account Has alerts
Espacenet	Excellent (90+)	> 1970*	?	No	Yes	*May be abstracts only
Free Patents Online	Some	> 1971	> 2001	Excellent	Yes	Has alerts

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Patent Research - DIY Steps

Methodology for Patent Searches

- Prepare
  - Keywords, synonyms, foreign equivalents
  - International Class Codes
- Develop at least three strategies

  (the “Search Sandwich”):
  - Word only
  - Combination
  - Class code only

Document both searches AND results

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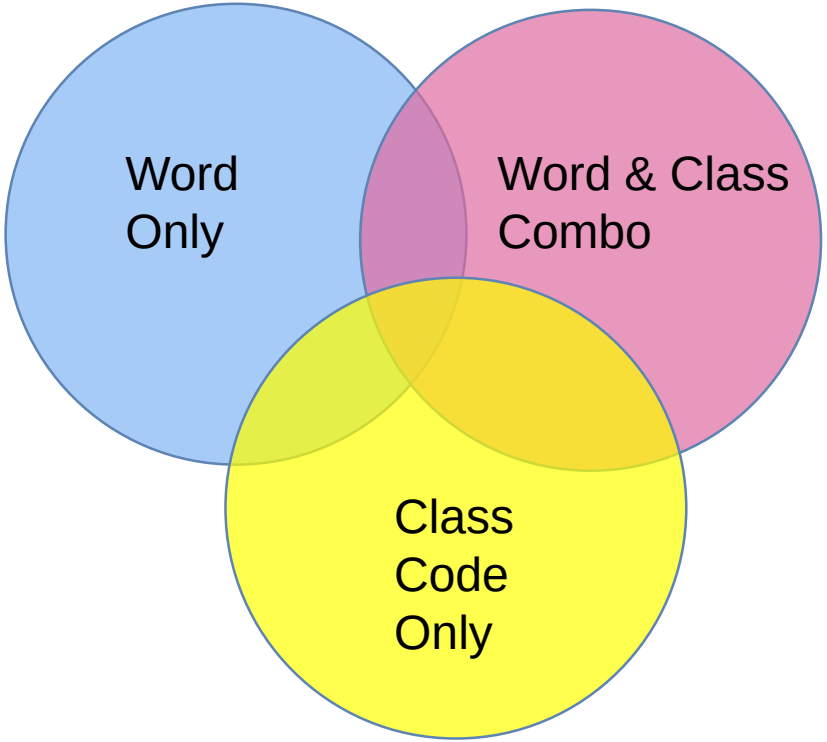
More on Patent Searches

- Search from high level to detailed:
  - Words: title, abstract, claims, description
  - Class codes: section, class, subclass, group
- Check out interesting companies and inventors
- Check Forward & Backwards Citations of most related publications
- **Repeat!**

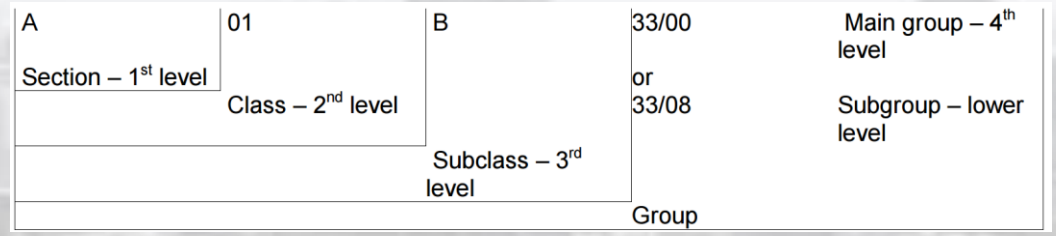
Don’t forget to improve your design and expand your market!

Why Search this way?



Using International Class Codes

A	HUMAN NECESSITIES
B	PERFORMING OPERATIONS; TRANSPORTING
C	CHEMISTRY; METALLURGY
D	TEXTILES; PAPER
E	FIXED CONSTRUCTIONS
F	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
G	PHYSICS
H	ELECTRICITY



Synonyms

- English: Two OR many OR several OR plural OR (more than one) OR multiple OR multiplicity OR concurrent OR redundant OR couple OR join OR linked OR banded OR coherent OR combined OR consecutive OR unified OR adjoin* OR several OR plurality OR array OR assortment OR collection OR group OR grouping OR assembly
- Non-English: dos, deux (French), zwei (German), due (Italian)

EXAMPLE: Adjustable Ring

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Keywords

- Personal, planetary, gears, bells, chemistry, phones, sports, pistons?
- Jewelry, band, personal ring, earring, finger ring, wedding ring, wedding band, ring size, pinky ring, decorative, personal, gymnastics
    - Metal, diamond, shape
- Folding, swivel, interlocking, latch, pivot, insert, magnets, changing

Class codes

RING(S)

boxing RING(S) **A63C 19/00**

curtain RING(S) **A47H 13/02**

ear RING(S) **A44C 7/00**

finger RING(S) **A44C 9/00**

finger RING(S) for cutting string **B26B 27/00**

hand-tools for mounting or demounting piston RING(S) **B25B 27/12**

making metal RING(S) **B21D 53/16**
see also catchwords for the metal-working operations involved

making RING(S) from wire **B21F 37/00**

napkin or serviette RING(S) **A47G 21/16**

piston RING(S) **F16J 9/00**

presses, in general, using RING(S) as pressing members **B30B 3/00**

pressing RING(S) or sockets on handles, poles or like articles **B23P 19/02**, **B25B 27/02**

RING(S) bolts **F16G 11/00**

A	**HUMAN NECESSITIES**
A44	**HABERDASHERY; JEWELLERY**
A44C	**JEWELLERY; BRACELETS; OTHER PERSONAL ADORNMENTS; COINS**
A44C 1/00	**Brooches or clips in their decorative or ornamental aspect [2006.01]**
A44C 3/00	**Medals; Badges [2006.01]**
A44C 5/00	**Bracelets; Wrist-watch straps; Fastenings for bracelets or wrist-watch straps [2006.01]**
A44C 5/02	· Link constructions **[2006.01]**
A44C 5/04	· · extensible **[2006.01]**
A44C 5/06	· · · having lazy-tongs **[2006.01]**
A44C 5/08	· · · having separate links **[2006.01]**
A44C 5/10	· · not extensible **[2006.01]**
A44C 5/12	· C-spring-type bracelets or wrist-watch holders **[2006.01]**
A44C 5/14	· characterised by the way of fastening to a wrist-watch or the like **[2006.01]**
A44C 5/16	· · by folding the strap **[2006.01]**
A44C 5/18	· Fasteners for straps (buckles **A44B 11/00**) **[2006.01]**
A44C 5/20	· · for open straps **[2006.01]**
A44C 5/22	· · for closed straps **[2006.01]**
A44C 5/24	· · · with folding devices **[2006.01]**
A44C 7/00	**Ear-rings; Devices for piercing the ear-lobes [2006.01]**
A44C 9/00	**Finger-rings [2006.01]**
A44C 9/02	· adjustable **[2006.01]**
A44C 11/00	**Watch chains; Ornamental chains [2006.01]**
A44C 11/02	· Fastening devices **[2006.01]**

USPTO Advanced Search http://patft.uspto.gov/netahtml/PTO/search-adv.htm

Keyword only:

1: TTL/(Adjustable AND Ring) → 121 results, a few good, most are unrelated

2: TTL/(Adjust$ AND Ring$) → 275, testing truncation, most are unrelated

3: TTL/(Adjust$ AND Ring$) ANDNOT (Seat OR Belt OR Oscillator) → 216, better

4: TTL/(Adjust$ AND Ring$ AND Finger$) → 9, very good, need to add in synonyms

5: TTL/((Adjust$ OR Chang$) AND Ring$ AND (Finger$ OR Toe OR toes)) → 10, still good but can likely get additional results by looking at abstracts

6: ABST/((Adjust$ OR Chang$) AND Ring$ AND (Finger$ OR Toe OR toes)) → 236, this is large but easily scanned for unrelated results. Probably need to stop here but double check by searching the claims field.

7: ACLM/((Adjust$ OR Chang$) AND Ring$ AND (Finger$ OR Toe OR toes)) → 1853, Confirmed, too many results, review and save results from strategy #6.

The number of results shown is small; expect more when you search.

Tracking Results

Search	#	Number	Title
6	1	6,279,244	Fancy sizers
6	2	5,806,345	Pinhole ring
6	3	5,669,241	Hinged finger ring
6	4	5,651,273	Hinged finger ring
6	5	5,588,310	Jewelry with changeable ornamentation

Class Code Only:

8: ICL/A44C009/02 → 41, very good results, this was great the first time!

9: ICL/A44C009/00 ANDNOT ICL/A44C009/02 → 92, reasonable number to review, review and save

The filler:

10: ACLM/((Adjust$ OR Chang$) AND Ring$ AND (Finger$ OR Toe OR toes)) AND ICL/A44C009/00 → 7 small number to review, save. This should overlap both term and class searches above.

11: ACLM/((Adjust$ OR Chang$ OR Latch$ OR Fold$ OR Swivel$ OR pivot$ OR Hinge$) AND (Ring$ OR Jewelry) AND (Finger$ OR Toe OR toes)) AND ICL/A44C009/00 → 18, looks good

Sample Tracking Results

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Search	#	Number	Title	Interesting?	Metal?	Folding?	Locking?	Comments
6	1	6,279,244	Fancy sizers	No	Yes	No	No	
6	2	5,806,345	Pinhole ring	No	No	No	No	
6	3	5,669,241	Hinged finger ring	No	??	No	Yes	
6	4	5,651,273	Hinged finger ring	No				
6	5	5,588,310	Jewelry with changeable ornamentation	No				
8	1	6,886,363	Ring	No				
8	2	6,799,436	Adjustable and linkable jewelry device	No				
8	3	6,748,764	Self-adjusting ring size reducer	No				
8	4	6,672,105	Finger ring fit adjuster	Yes				
8	5	6,481,114	Finger ring shim and sizing tool	Yes				
9	1	6,928,734	Jewelry ring and method of manufacturing same	Yes				
9	2	6,910,273	Manufacturing method for jewelry including shape memory alloy elements	Yes				
9	3	6,889,525	Ring and mounting for a plurality of gemstones	Yes				
9	4	6,868,697	Engagement set with locking arrangement and rear crossover configuration	Yes				
9	5	6,279,244	Fancy sizers	Yes				
10	1	6,279,244	Fancy sizers	Yes				
10	2	5,588,310	Jewelry with changeable ornamentation	Yes				
10	3	5,129,851	Toy convertible between a toy vehicle and a finger ring	Yes				
10	4	4,845,777	Ring protector	Yes				
10	5	4,742,696	Ring with replaceable stones	Yes				
11	1	6,279,244	Fancy sizers					
11	2	5,806,345	Pinhole ring					
11	3	5,669,241	Hinged finger ring					
11	4	5,651,273	Hinged finger ring					
11	5	5,588,310	Jewelry with changeable ornamentation					

Citation Searches

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When are You Finished?

PEARSON STRATEGY

You're not finished if:

- If you don't find at least one highly related publication, AND
- No additional relevant publications are found after reviewing ALL forward and backward citations for your most relevant publications.

Don't forget to search non-IP resources (not covered in this presentation)

Questions?

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