

# TUESDAY PATENT CLASS

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# CLASS OBJECTIVES

Get you started on the right track for patent search:

After the class, you shall be able to:

- identify different parts of patents
- conduct basic patent searches using patent databases: PatFT, AppFT, and Espacenet
- locate specific patents using different criteria
- look for patent classifications and to apply classification into your patent searches

# OUTLINE

## **Part I – Introduction**

- Patentability Requirements
- Types of Patents, Patent Terms, Fees
- Provisional Patent Application
- Patent Documents
- Patent Search Strategies
- Patent Classifications and Patent Databases

## **Part II – Demos and hands-on practice**

- Find specific patent(s) by patent number, inventor, assignee, etc.
- Keyword Search using Google Patents and others
- Classification Search using USPTO databases and Espacenet
- Hybrid search using classification and keywords

# PART I: INTRODUCTION

## INSTANT POLLING :

QUESTION: A PATENT GIVES THE OWNER THE RIGHT TO...

- A) make his/her invention
- B) commercialize his/her invention
- C) prevent others from making his/her invention
- D) collect a monetary reward from the government
- E) publish the results of tests using the invention
- F) do all of above

# THE ANSWER

C) prevent others from making his/her invention

# WHAT IS A PATENT?

A grant of property right by the government to the inventor (or his heirs or assigns), acting through the United State Patent and Trademark Office (USPTO).

In exchange, the assignee (owner) of the patent has the right to exclude others from making, selling, or using the invention for a limited period of time, usually 20 years from the time of application. This right extends throughout the United States and its territories and possessions.

Patents represent the latest advances in technology and as such are indicators of the leading technology in any field and are an excellent resource for researchers.

# PATENTABILITY REQUIREMENTS

Allowable subject matter  
(Statutory class - 35 U.S.C. S101):

- Processes (methods);
- Machines;
- Articles of manufacture;
- Compositions;
- “New use” of one of the four

1. **Usefulness** – the invention must have a function (useful purpose)
2. **Novelty** – there must be no previous patent or mention in any publication (“prior art”)
3. **Nonobviousness** – the invention must not be easily apparent to someone “skilled in the art”
4. **Full Disclosure**



# NONOBVIOUSNESS

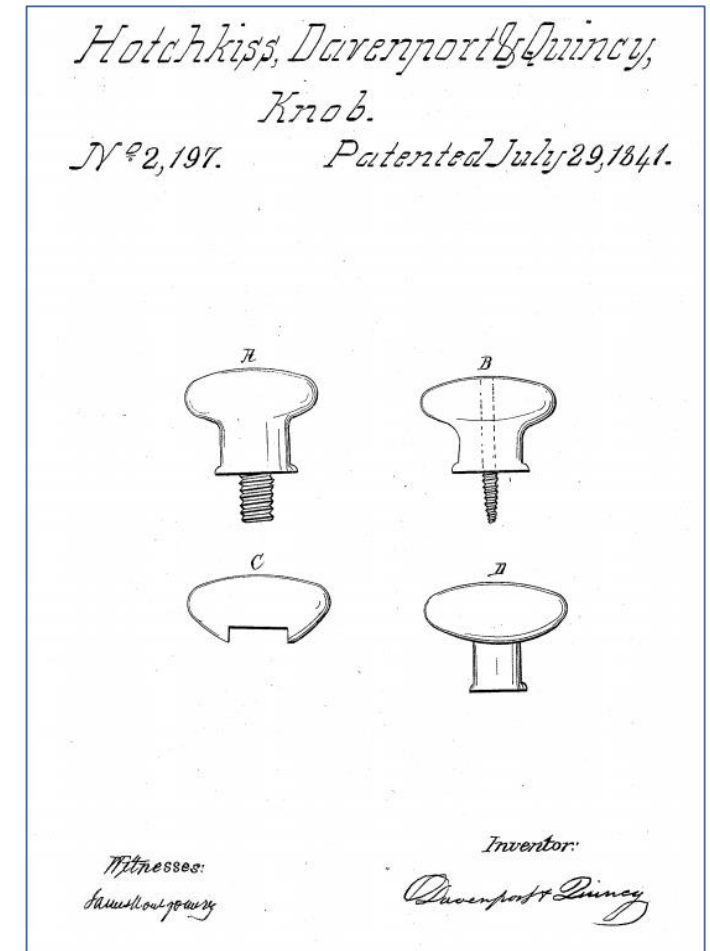
## ❑ Hotchkiss Case (1851)

- ❑ Hotchkiss v. Greenwood, Supreme Court (1851)
- ❑ Doornobs (clay, porcelain -> metallic )
- ❑ ...it would have been within the level of skill of an ordinary artisan in that art to combine those known features to make the claimed invention

## ❑ 1952 codification of *Hotchkiss*

- ❑ A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

## ❑ PHOSITA (Person Having the Ordinary Skill in the Art)\*



# WHAT CAN NOT BE PATENTED?

The laws of nature

Physical phenomena

Abstract ideas

Inventions useful solely  
for atomic weapons  
(Atomic Energy Act of  
1954)

Examples: Are these patentable?

New mineral discovered in the  
earth?

New plant found in the wild?

$E=mc^2$  (Einstein)? or the law of  
gravity (Newton)?

Electrical signal?

Mixtures of ingredients, such as  
medicines?

*Engineered mice for cancer  
research?*

# TYPES OF US PATENTS AND PATENT TERMS

**Utility Patents** – to protect the functionality of an invention

- Term: 20 years from filing (June 1995- )

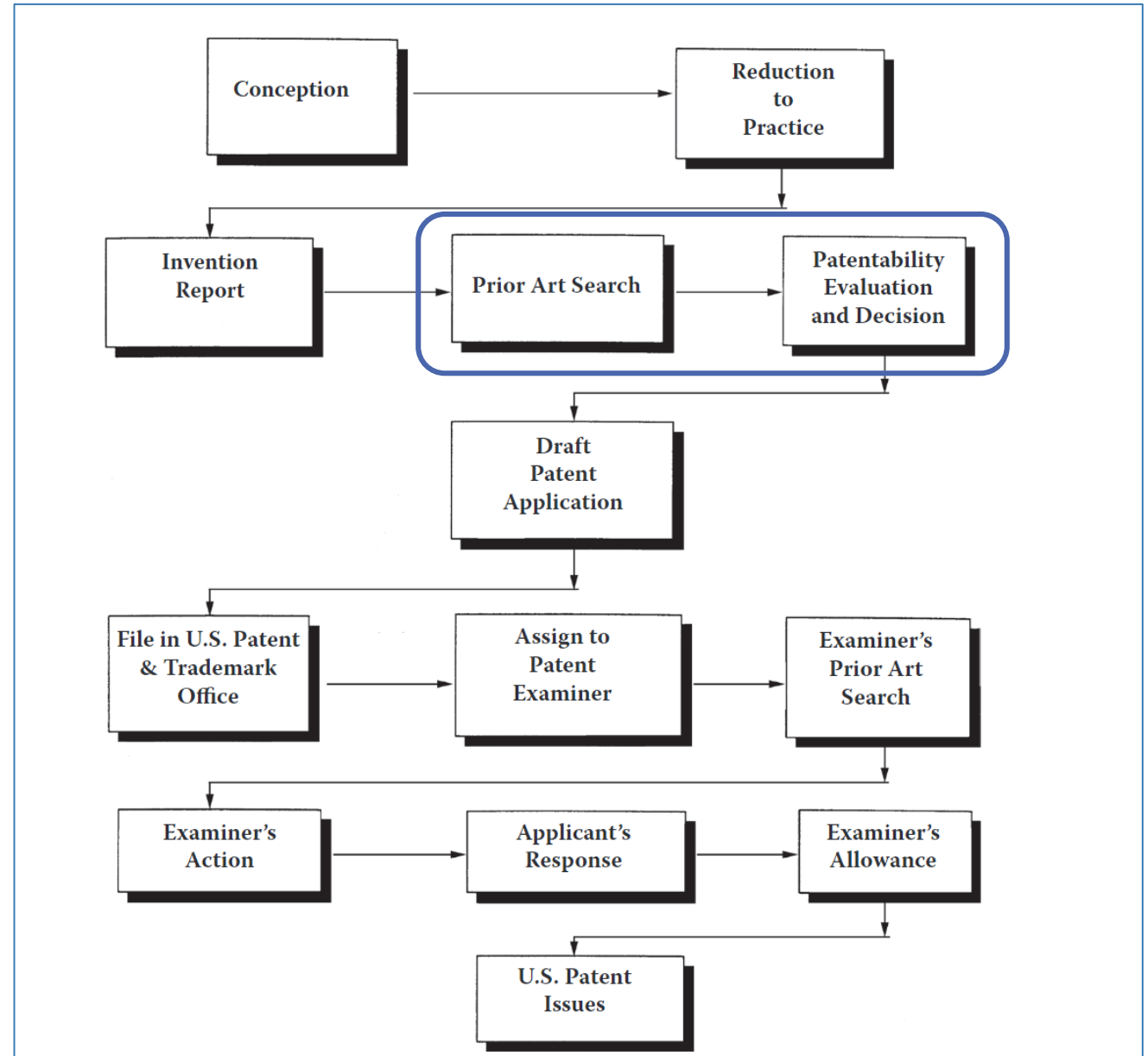
**Design Patents** – to protect the ornamental design

- Term: 15 years from issuing (May 2015- )

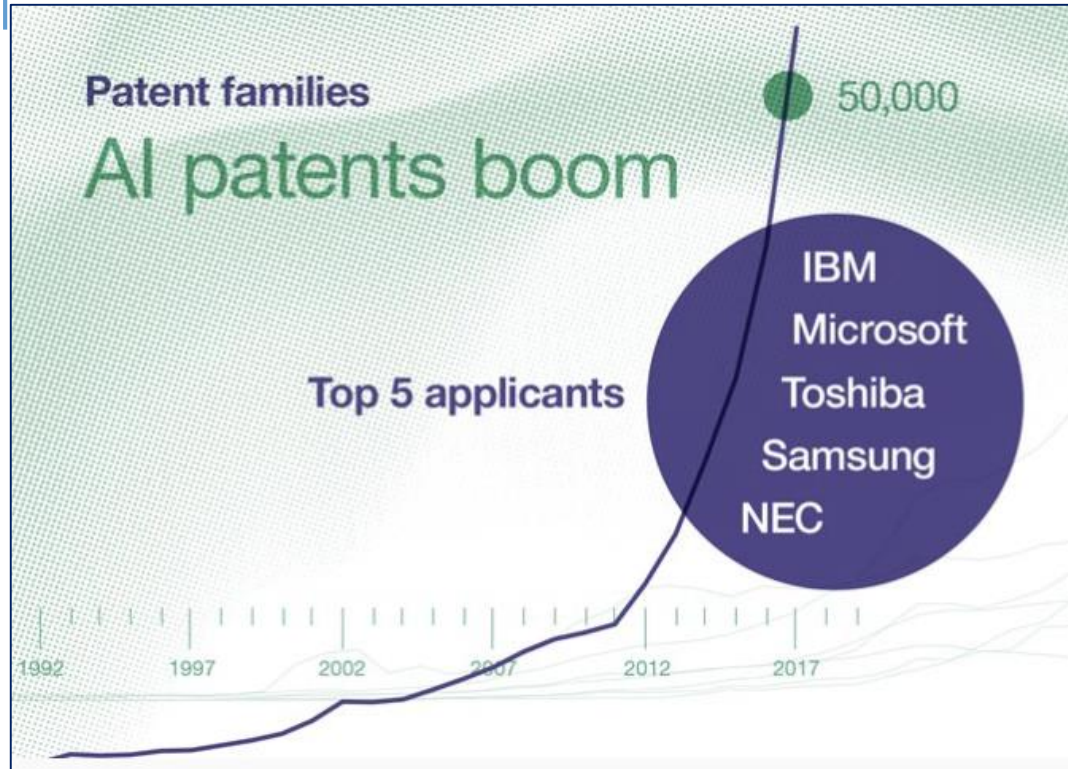
**Plant Patents** – to protect new variety of plant

- Term: 20 years from filing

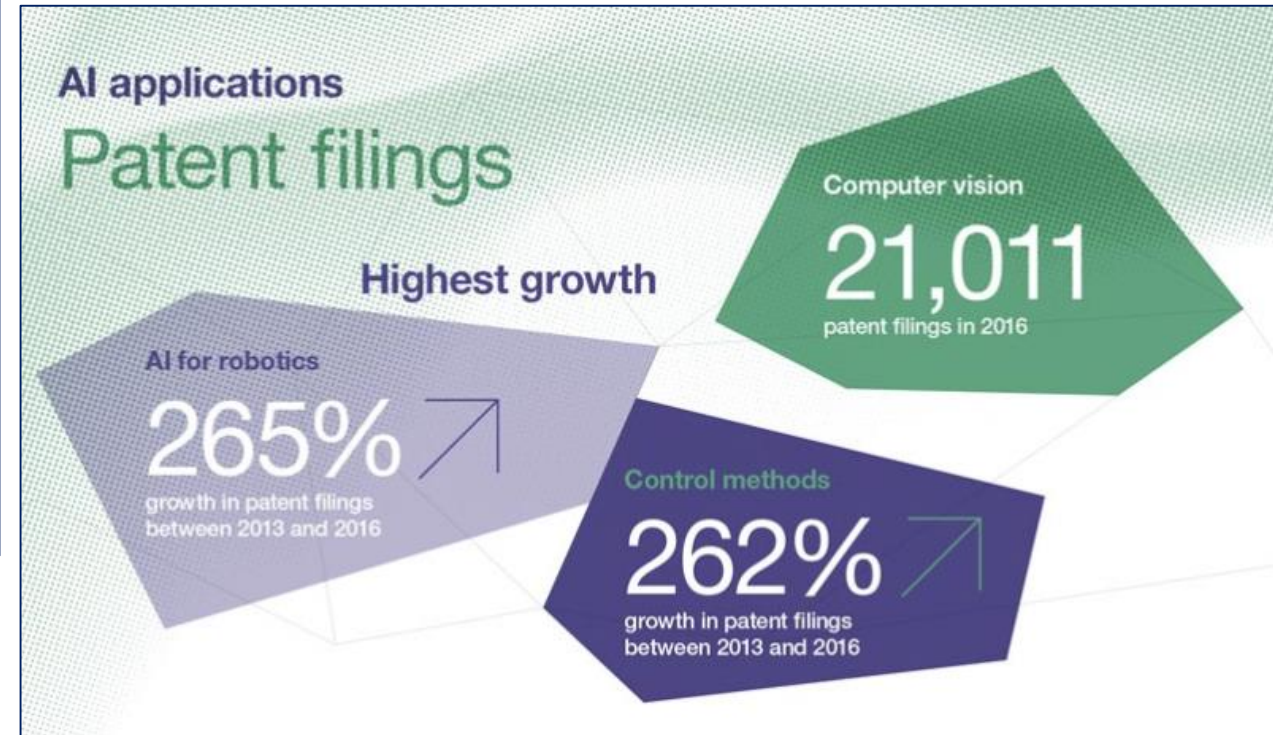
# EVOLUTION OF A PATENT—FROM CONCEPTION TO ISSUANCE\*



# THE AI PATENTS BOOM



*“Artificial Intelligence (AI) will transform every facet of society.” - an expert*



(Source: WIPO Magazine, Feb. 2019)

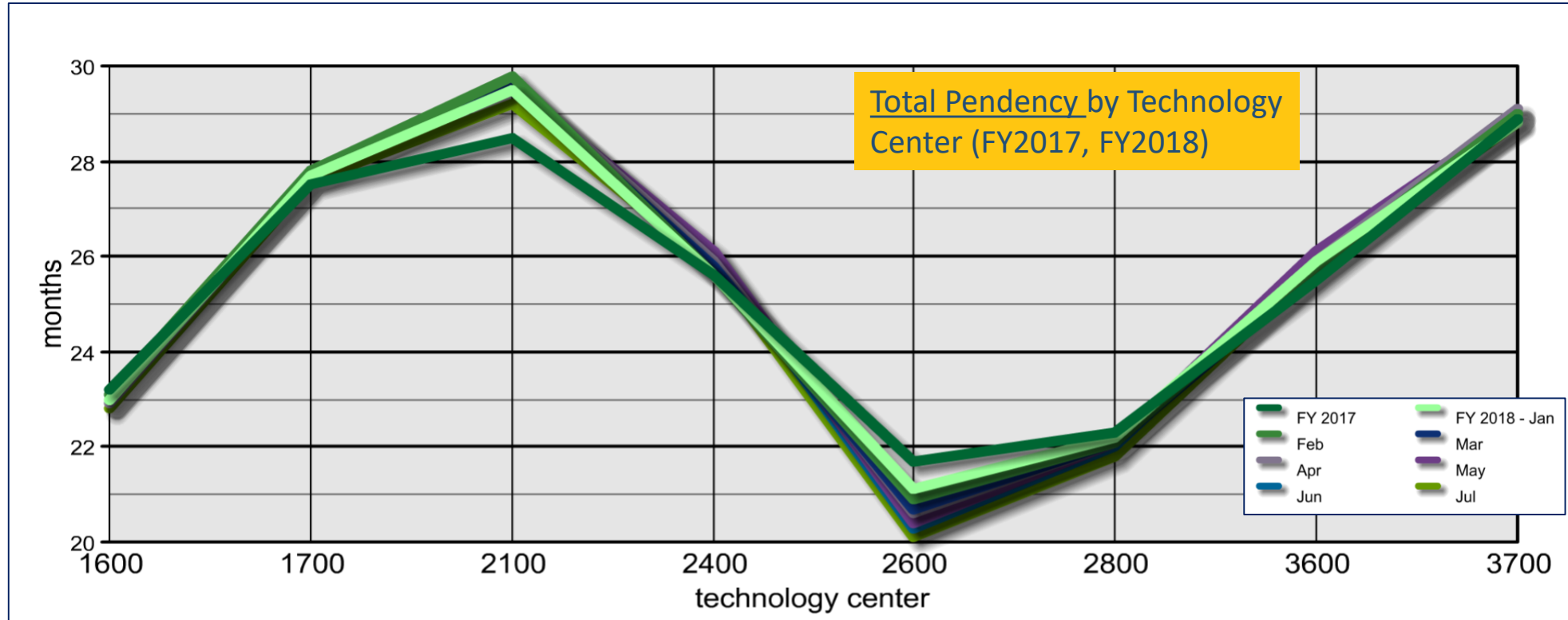
# FY 2018 PATENTING STATISTICS

Total US Patent Applications Filed:	643,349
Total Provisional Applications Filed:	168,902
US Patent Grants	338,072
▪ >90% Utility patents	
US Published Applications:	371,502
Pendency Time Average:	23.8 mon.
PCT Filing at USPTO:	55,849
US Patents Expired:	118,705

World Wide Patenting Statistics

WIPO Statistics: <http://www.wipo.int/edocs/infogdocs/en/ipfactsandfigures2017/>

# US PATENTS PENDENCY BY TECHNOLOGY



[Technology Center 1600](#) Biotechnology and Organic fields.

[Technology Center 1700](#) Chemical and Materials Engineering fields.

[Technology Center 2100](#) Computer Architecture Software and Information Security.

[Technology Center 2400](#) Computer Networks, Multiplex, Cable and Cryptography/Security.

[Technology Center 2600](#) Communications.

[Technology Center 2800](#) Semiconductors, Electrical and Optical Systems and Components.

[Technology Center 2900](#) Designs.

[Technology Center 3600](#) Transportation, Electronic Commerce, Construction, Agriculture, Licensing and Review.

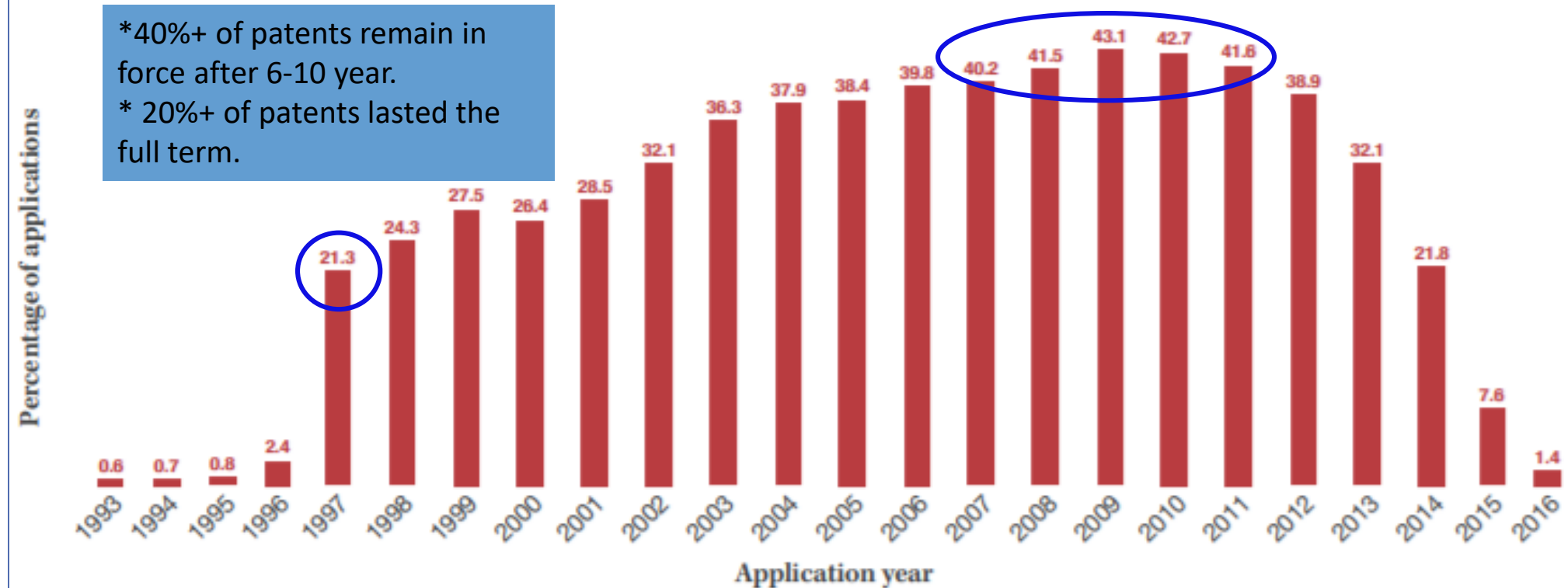
[Technology Center 3700](#) Mechanical Engineering, Manufacturing and Products.

(Source: USPTO)



# PATENT IN FORCE

## Patents in force in 2016 as a percentage of total applications



Note: Percentages are calculated as the number of patent applications filed in year  $t$  and in force in 2016, divided by the total number of patent applications filed in year  $t$ . Patent holders must pay maintenance fees to maintain the validity of their patents. Depending on technological and commercial considerations, patent holders may opt to let a patent lapse before the end of the full protection term. This figure shows the distribution of patents in force in 2016 as a percentage of total applications in the year of filing. But not all offices provide these data. Data for 72 offices show that 40-43% of the applications for which patents were eventually granted remained in force for at least 6 to 10 years after the application date. About 21% of these patents lasted the full 20-year patent term.



# U.S. PATENTING FEES (EFFECTIVE MARCH 1, 2019)

	<u>Micro Entity</u>
Basic filing fee - Utility (paper filing - + non-electronic filing fee)	\$75
Basic filing fee – Design	\$50
<b>Provisional application (utility) filing fee</b>	<b>\$70</b>
Utility Search Fee	\$165
Utility Examination Fee	\$190
Utility issue fee	\$250
Maintenance fee due at 3.5 years	\$400
Maintenance fee due at 7.5 years	\$900
Maintenance fee due at 11.5 years	\$1850

(Additional info.: [https://www.uspto.gov/learning-and-resources/fees-and-payment/uspto-fee-schedule#Patent Fees](https://www.uspto.gov/learning-and-resources/fees-and-payment/uspto-fee-schedule#Patent%20Fees) )

# SHOULD YOU FILE A PATENT APPLICATION ON YOUR OWN (DIY)?

## DIY: Do It Yourself\*?

- AT: Available Time ✓
- WA: Writing Ability ✓
- D: Diligence ✓
- DC: Desire to Control things ✓
- AF: Available Funds ✗

**Universal License Agreement**

1. Parties and Summary of Terms:  
Parties: This agreement is between:  
Licensor: Henry Beresofsky  
of Chernogov, Ukraine  
Licensee: Chernobyl Reader  
of Russian Hill, CA  
Summary: Type of License: Perpetual  
Invention Title: Perpetual  
Patent Application Ser. Nr.: 2.00  
If Exclusive License, minimum  
MARs start first quarter of 2.00  
✓ Option Granted: Premium  
Patent Royalty Rate 2.00  
Total Royalty Rate (Patent Royalty)  
Estimated 1st year's sales (units)  
x Total Royalty Rate 2.00  
2. Effective Date: This agreement shall be referred to as the Agreement.

**Nondisclosure Agreement**

1. Parties. This Disclosure Agreement (the "Agreement") is entered into by and between \_\_\_\_\_ ("Disclosing Party"), and \_\_\_\_\_ ("Receiving Party"), for the purpose of preventing the unauthorized disclosure of Confidential Information (as defined below). The parties agree to enter into a confidential relationship with respect to the disclosure of certain proprietary and confidential information ("Confidential Information").

2. Definition of Confidential Information. For purposes of this Agreement, "Confidential Information" shall

Provisional Patent Application of

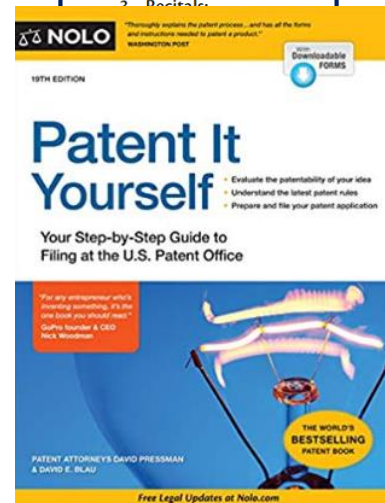
Robert H. Howe

for

TITLE: ADJUSTABLE SLEEPING BAG WITH DRAWCORDS

DESCRIPTION

FIG. 1 is a perspective view taken from the user's right side of a sleeping bag 11 constructed in accordance with the invention. An upper portion 12 of the bag has a drawcord 14, circumferentially mounted within a fabric casing sleeve 15, and secured by cord lock 16. Such cord arrangements are repeated at each of locations 19, 20, 21, and 22. Each sleeve 15 and each contained drawcord 14 extends only across the upper portion of the bag, from a zipper 17 on the right side of the bag, to a corresponding location 18 (FIG. 2) on the left side. The bottom portion of the bag (not shown) has no drawcords. The drawcords are made of stretchable elastic or nonstretchable material (nylon), while the sleeves are preferably made of the same material as the bag's outer shell, e.g., nylon or rayon. Such sleeves may be sewed, glued, or thermally bonded to



# BENEFITS OF FILING A PROVISIONAL APPLICATION FOR PATENT

- Filing date (priority)
- Simplified filing (Not required: patent claims, oath of declaration, and disclosure of prior art)
- 12-month pendency
- Patent pending status

# PROVISIONAL PATENT APPLICATION (PPA): BASIC REQUIREMENTS

- Provisional application filing **status**
  - Micro Entity status (gross income <\$184,116)
  - Small Entity status
- Provisional application **cover sheet**
  - The name(s) of all inventors
  - Title of the invention
  - Correspondence address
- **Specification**
- **Drawings**

# FACTS ABOUT PPA

A PPA expires after one year.

You cannot extend a PPA.

You cannot renew a PPA.

A PPA will never become a patent.

You cannot file a PPA for a design.

The USPTO does not examine PPAs.

The USPTO does not conduct a prior art search on PPAs

The USPTO does review PPAs to make sure they meet minimum filing requirements.

PPAs are not published by the USPTO (unless claimed as priority in a later-issued or published non-provisional application).

You can use the term "patent pending" for the duration of the one-year pendency of a PPA.

(Source: USPTO)

# KEY PARTS OF A PATENT: FRONT PAGE

Priority data may serve for identifying patent documents published in different countries and languages but referring to the same invention ("Patent Family"). (WIPO)

INID Codes

## Who

- Applicant, Inventor, Assignee, Examiner, Attorney/Agent

## When

- Filing Date, Issue Date, Prior Publication Date

## Where

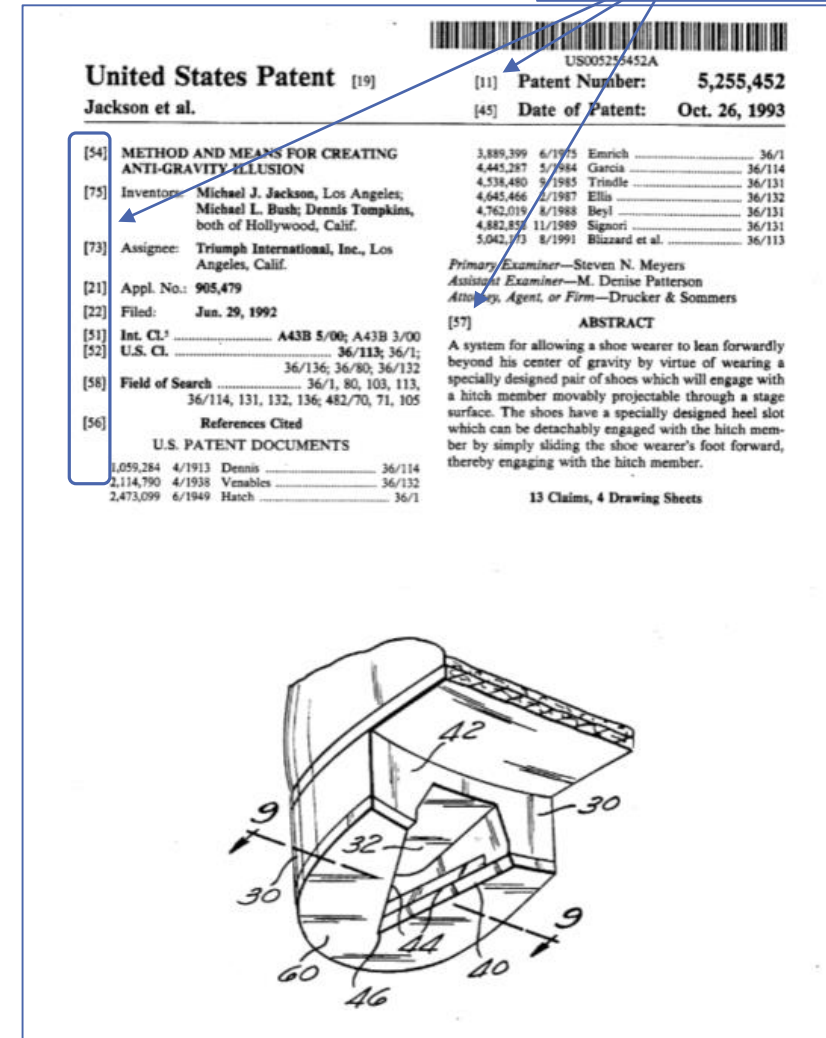
- Inventor city, state, country

## What

- Patent Number
- Title
- Abstract
- Classification Codes
- References
- Drawing(s)
- Number of Claims

## Other

- Notices



# INID CODES (ON PATENT FRONT PAGE)

- **INID**: International agreed Numbers for the Identification of (bibliographic) Data
- Internationally agreed numbers that are used to identify bibliographic data and usually shown in brackets or circles. These numbers are *consistent in every country and enables reading of important information on a patent document*, even if one does not understand the language in which it is printed.
- First included on U.S. patents on Aug. 4th, 1970
- Identified by
  - **parentheses (21), or square brackets [21]** prior to Jan. 1, 2001

# COMMON INID CODES

(54) – **Title**

(56) – References

(57) – **Abstract or claim**

(58) – Field of search

(60) – Provisional application data

(65) – Prior publication data

(71) – Applicant

(72) – **Inventor**

(73) – **Assignee** (owner)

(74) – Attorney, agent or firm

(75) – Inventor (s)

(10) or (11) – **Patent number**

(12) or (19) – **Country code**

(21) – Application number

(22) – Date of application

(30) or (31) – Priority filing number

(32) – **Priority filing date**

(33) – Priority country

(43) – Publication date

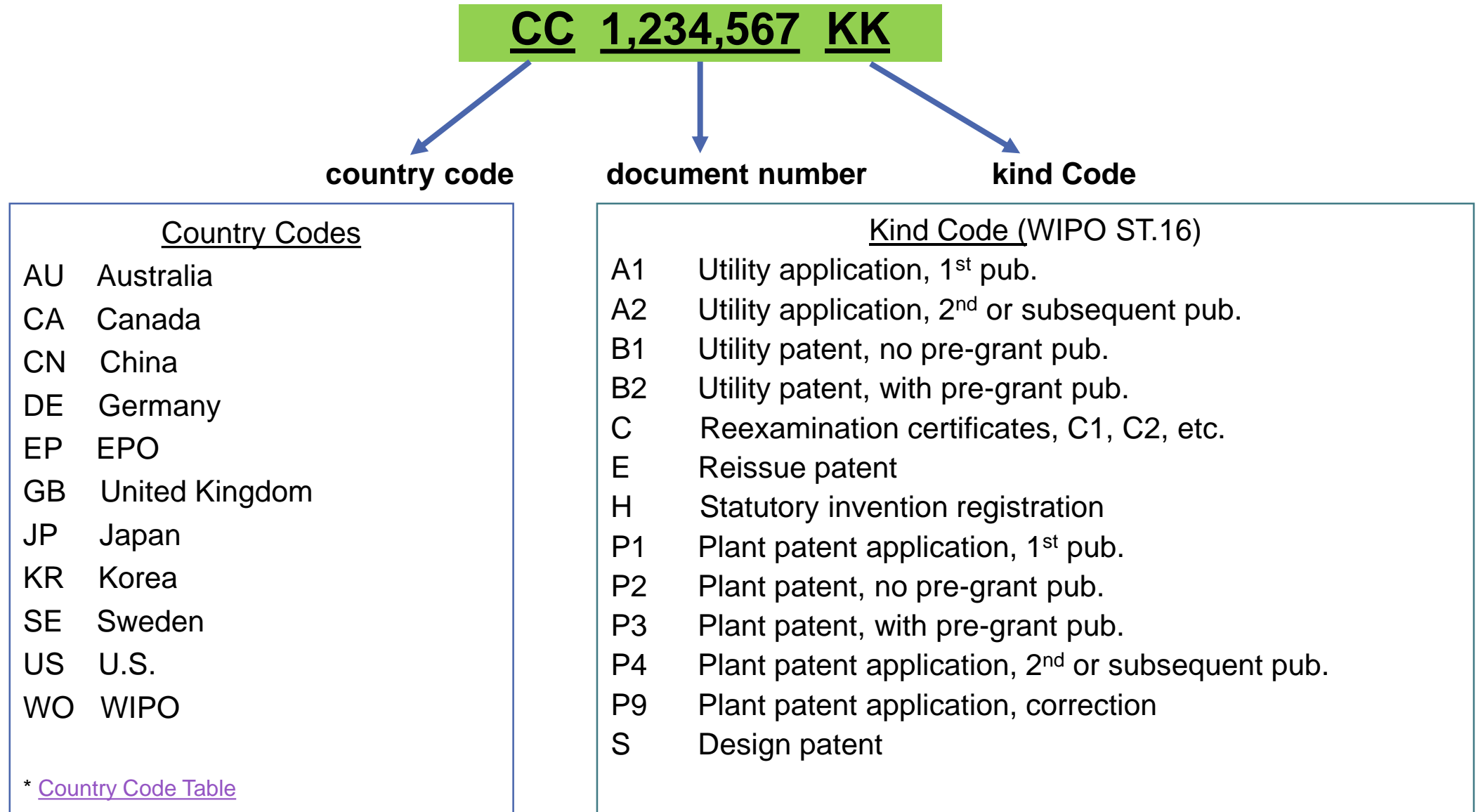
(45) – **Date of patent**

(51) – **IPC classification**

(52) – **National classification**



# PATENT NUMBER FORMAT



# PATENT DOCUMENTS KIND CODES

## Summary of **USPTO** Kind Codes Used on Documents Published (2001- )

<b>WIPO ST.16 Kind Codes</b>	<b>Kind of document</b>	<b>Comments</b>
A1	Patent Application Publication	Pre-grant publication available March 2001
A2	Patent Application Publication (Republication)	Pre-grant publication available March 2001
A9	Patent Application Publication (Corrected Publication)	Pre-grant publication available March 2001
B1	Patent	No previously published pre-grant publication
B2	Patent	Having a previously published pre-grant publication and available March 2001

# US PATENT NUMBER FORMAT

A **Patent Number** may include up to 8 characters and is formatted as follows:

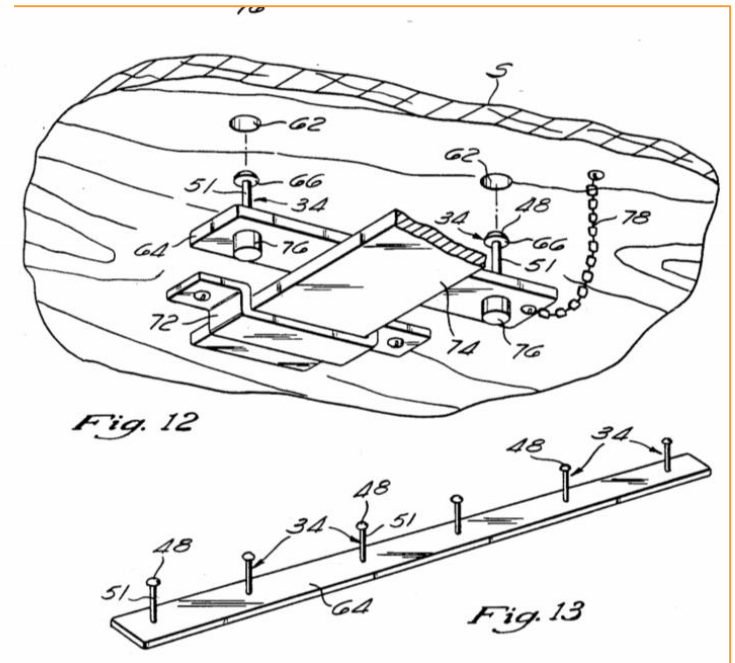
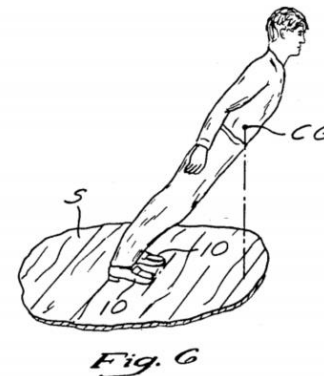
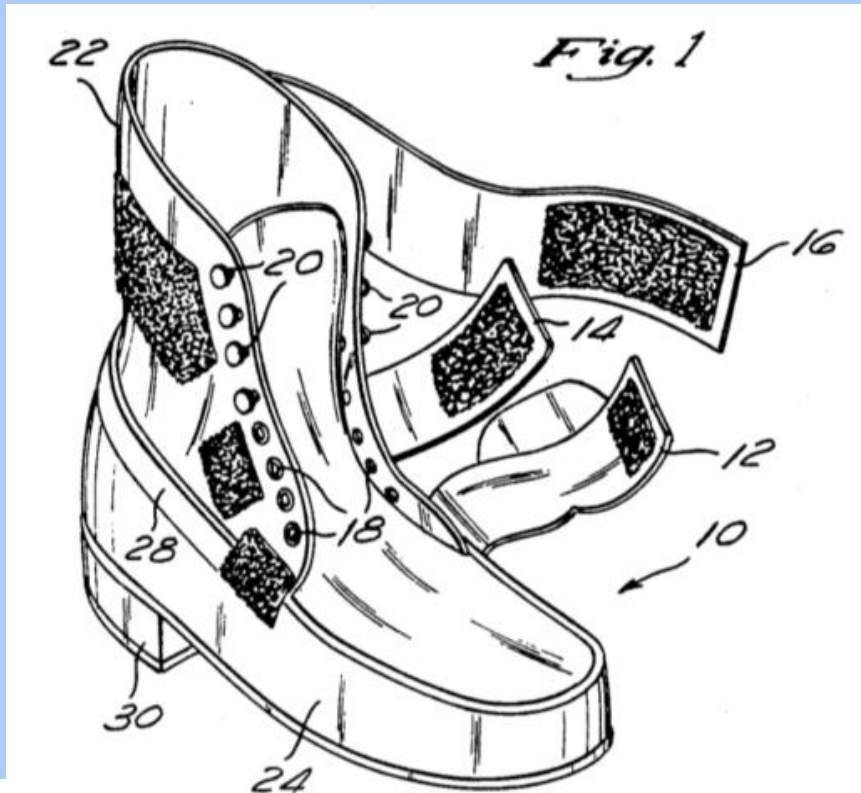
- **Utility** : Patent numbers consist of 6, 7 or 8 digits. Enter the Patent number excluding commas and spaces and omit leading zeroes.
- **Reissue** : (e.g., Rennnnnnn, RE000126) must enter leading zeroes between "RE" and number to create 6 digits.
- **Plant Patents** : (e.g., PPnnnnnnn, PP000126) must enter leading zeroes between "PP" and number to create 6 digits.
- **Design** : (e.g., Dnnnnnnnn, D0000126) must enter leading zeroes between "D" and number to create 7 digits.

**Application Number\***: (e.g. **15/731369**) Two digit series code followed by a 6 digit serial number which is assigned by the USPTO.

\*Source: USPTO. Filing Years and Patent Application Serial Numbers Since 1882 (<https://www.uspto.gov/web/offices/ac/ido/oeip/taf/filingyr.htm> )

# KEY PARTS OF A PATENT: DRAWING PAGE(S)

## Drawing (s)



# KEY PARTS OF A PATENT: CLAIM(S)

“The part of a patent document which defines the matter for which protection is sought or granted.”(WIPO)

## Claim (s)

- Numbered paragraphs at the end of the specification
- Defines invention's legal boundaries
- Claim language can be complicated.

United States Patent [19]		[11] Patent Number:	5,255,452
Jackson et al.		[45] Date of Patent:	Oct. 26, 1993
[54]	METHOD AND MEANS FOR CREATING ANTI-GRAVITY ILLUSION		
[75]	Inventors: Michael J. Jackson, Los Angeles; Michael L. Bush; Dennis Tompkins, both of Hollywood, Calif.		
[73]	Assignee: Triumph International, Inc., Los Angeles, Calif.		
[21]	Appl. No.: 905,479		
[22]	Filed: Jun. 29, 1992		
[51]	Int. Cl. <sup>3</sup> A43B 5/00; A43B 3/00		
[52]	U.S. Cl. 36/113; 36/1; 36/136; 36/80; 36/132		
[58]	Field of Search 36/1, 80, 103, 113, 36/114, 131, 132, 136; 482/70, 71, 105		
[56]	References Cited		
U.S. PATENT DOCUMENTS			
1,059,284	4/1913	Dennis	36/114
2,114,790	4/1938	Vanables	36/132
2,473,099	6/1949	Hatch	36/1
3,889,399	6/1975	Emrich	36/1
4,445,287	5/1984	Garcia	36/114
4,538,480	9/1985	Trindle	36/131
4,645,466	2/1987	Ellis	36/132
4,762,019	8/1988	Beyl	36/131
4,882,858	11/1989	Signori	36/131
5,042,173	8/1991	Blizzard et al.	36/113
Primary Examiner—Steven N. Meyers Assistant Examiner—M. Denise Patterson Attorney, Agent, or Firm—Drucker & Sommers			
[57]	ABSTRACT		
A system for allowing a shoe wearer to lean forwardly beyond his center of gravity by virtue of wearing a specially designed pair of shoes which will engage with a hitch member movably projectable through a stage surface. The shoes have a specially designed heel slot which can be detachably engaged with the hitch member by simply sliding the shoe wearer's foot forward, thereby engaging with the hitch member.			
13 Claims, 4 Drawing Sheets			

I claim:

1. A system for engaging shoes with a hitch means to permit a person standing on a stage surface to lean forwardly beyond his or her center of gravity, comprising: 20  
at least one shoe having a heel with a first engagement means, said first engagement means comprising a recess formed in a heel of said shoe covered with a heel slot plate having a slot formed therein with a relatively wide opening at a leading edge of said heel and a narrower terminal end rearward of said leading edge, said recess being larger in size above said terminal end of said slot than is said terminal end of said slot; and 25

6  
1, wherein said shoe has strapping shoe to the wearer's feet.  
claim 1, wherein said shoe has lace shoe to the wearer's feet.  
claim 1, wherein said shoe has extending the wearer's ankle, and is intended to conceal the said extension  
claim 5, wherein said covering sock-like covering.  
engaging shoes with a hitch means to lean on a stage surface to lean forward her center of gravity in a stable  
having a heel with a first engagement first engagement means comprising in a heel of said shoe, said relatively wide opening at a leading edge and a narrower terminal end rearward edge; and  
hitch means, detachably engagable engagement means, comprising a having an enlarged head portion, means for raising and lowering said shoe and substantially level with or surface, wherein said hitch member through apertures in said stage a projecting position raised above and a retracted position at or surface, and when said hitch member move said stage surface, said first means is detachably engagable with hitch member, thereby allowing the shoes to lean forwardly with center of gravity beyond a front shoes, and maintain said forward  
claim 7, wherein said recess is covered located at a bottom region of slot plate having a slot formed

# CLAIM EXAMPLE

*I claim:*

*1. A system for engaging shoes with a hitch means to permit a person standing on a stage surface to lean forwardly beyond his or her center of gravity, comprising: at least one shoe having a heel with a first engagement means, said first engagement means comprising a recess formed in a heel of said shoe covered with a heel slot plane located at a bottom region of said heel, said heel slot plate having a slot formed therein...*

## MPEP Article 6:

- The claim or claims shall define the matter for which protection is sought.
- Claims shall be clear and concise. They shall be fully supported by the description.

(Searchable MPEP:

<https://mpep.uspto.gov/RDMS/MPEP/current#/current/d0e18.html>)



# CLAIM EXAMPLE

**What is claimed is:**

**1. An aqueous cosmetic emulsion comprising:**

**i) an isoparaffin;**

**ii) a C<sub>8</sub>-C<sub>22</sub> alkyl phosphate salt;**

**wherein the isoparaffin and alkyl phosphate salt are present in a respective weight ratio of from about 40:1 to about 1:1, and said emulsion having a viscosity ranging from 35 to about 90 Brookfield units as measured with a Brookfield Viscometer Model LVT using a #4 spindle rotating at 60 rpm at 25° C.**

**2. An aqueous cosmetic emulsion according to claim 1 wherein said ratio ranges from about 10:1 to about 4:1.**

**Title:** Cosmetic emulsions with hydrocarbon thickening agents

**Patent No. :** US4,939,179

**Abstract:** An aqueous cosmetic emulsion is provided that includes an isoparaffin and an alkyl phosphate salt wherein the relative ratio of isoparaffin to alkyl phosphate salt ranges from about 40:1 to 1:1. The combination of isoparaffin with alkyl phosphate salt provides an unexpected thickening effect and results in a non-greasy product relative to a mineral oil bearing formula.

# KEY PARTS OF A PATENT: SPECIFICATION

Specifies the technical field to which the invention relates, and describes the essential features of the invention with reference to any accompanying drawings. (WIPO)

- **Specification**

- Background of the invention and prior art
- Brief description of the drawings
- Detailed description of the invention, and the manner and process of making it or using it

## DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, there is illustrated, in FIG. 1, a front perspective view of the shoe 10 utilized in this invention, with fastening straps 12, 14, and 16 (not fastened) to reveal lacing eyelets 18 and lacing hooks 20. The shoe 10 rides relatively high on the wearer's ankles, as shown in FIG. 2 and 3, and can be snugly secured around the wearer's ankles by use of the straps 12, 14 and 16 and/or shoe laces (not shown) which can be tightly laced through the eyelets 18 and lacing hooks 20. The use of shoe laces provides for a snugger fit than by the straps 12, 14 and 16 straps, but the use of straps 12, 14 and 16 allows the shoes 10 to be put on and removed more quickly as timing, for this particular "move," may be extremely critical and of short duration. In order to conceal the nature of the shoes 10, the front of strap 12 can be made to appear as the tongue and strap of a penny loafer. Spats (not shown) or pant legs can be used to cover the upper part 22 of the shoes 10, as best shown in FIG. 6, and the lower part 24 of the shoe 10 will thus be made to appear as a normal walking or dance shoe. Also, as shown in FIGS. 4 and 5, an upper sock section 26 can be used to conceal the upper part 22 of the shoe 10, the sock section 26 fitting around a peripheral edge 28 of the shoe 10.

Referring to FIGS. 7-10, the heels 30 of the shoes 10 have a recess 32 formed therein adapted to detachably receive a hitch or post 34, thereby locking the heels 30 of the shoes 10 in place relative to the stage surface S through which the hitch 34 protrudes. A V-shaped guide 40 is located below recess 32, with the mouth of the V located at the leading edge 42 of the heel 30. The guide 40 forms the entrance to the recess 32. The front of the V-shaped guide 40 lies flush with the leading edge 42 of the heel 30. Edges 44, forming the V-shaped guide 40 terminate rearwardly of leading edge 42 at a terminal end point 46.

The V-shaped slot 40 is formed in the lower region 36 of the heel, preferably by two layers of materials, an outer or exposed layer 60, preferably made of leather, and an inner overlying layer, preferably consisting of a metal plate 52. The upper region 38 of the heel, above the metal plate layer 52 has the hitch-post receiving recess 32 formed therein. The metal plate 52 is affixed to the heel portion of the shoe, as described hereafter.



# TYPES OF PATENT SEARCHES

## Patentability

- Identify prior art to support patent prosecution
- **novelty, non-obviousness**

## State-of-the-Art

- Patentability search+ **NPL**

## Freedom to Operate (Clearance)

- Identify obstacles (roadblocks) to product commercialization

**Technology tracking** (the latest in a field)

## Validity

- Discover important prior art to support litigation

## Mining

- Patent assets, portfolio (for a patent owner in a given technology field)

## Patent Landscape

- Get a good look at IP opportunities

# KEYWORD SEARCH PROBLEMS

*Vague* or inconsistent terminology

- “Toy and process of use”

*Obsolete* names and terms

- Hi-Fi; laser disc; VHS

Different *meanings* in different fields

- “mouse” the animal v. computer “mouse”

Different *spellings*

- neighbour v. neighbor;
- *anaesthesia* v. *anesthesia*

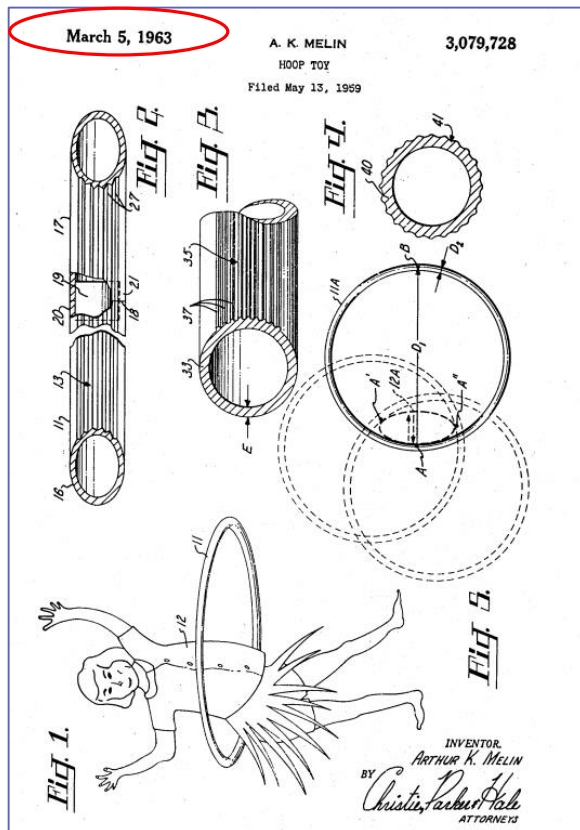
*Synonyms*

- bucket v. pail (brazier, can, canister, pot, ...)
- mouse v. rodent (e.g. US5,185,953)

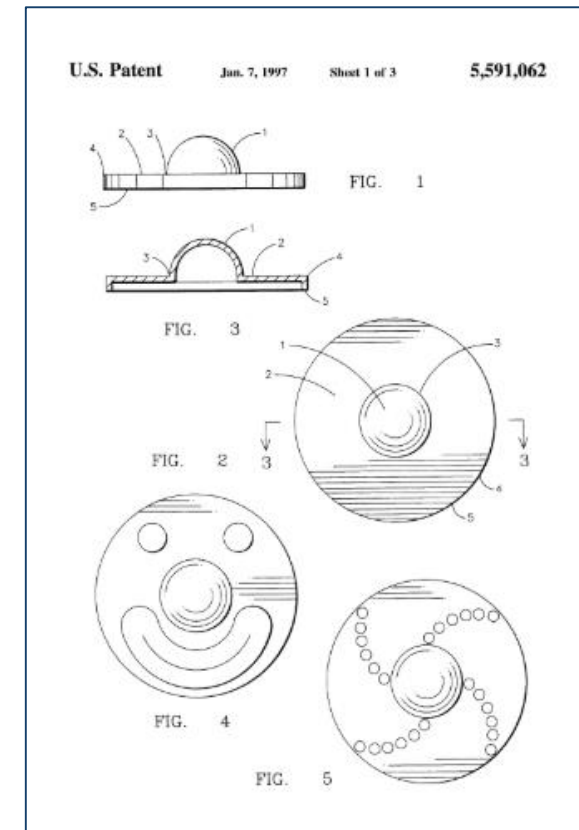
USPTO web database limit keyword search in *full text* from 1976 on. (Prior 1976: issue date, patent no. & classification search only.)

# WHAT PATENT IS THIS?

## Patent Title: “Hoop toy”

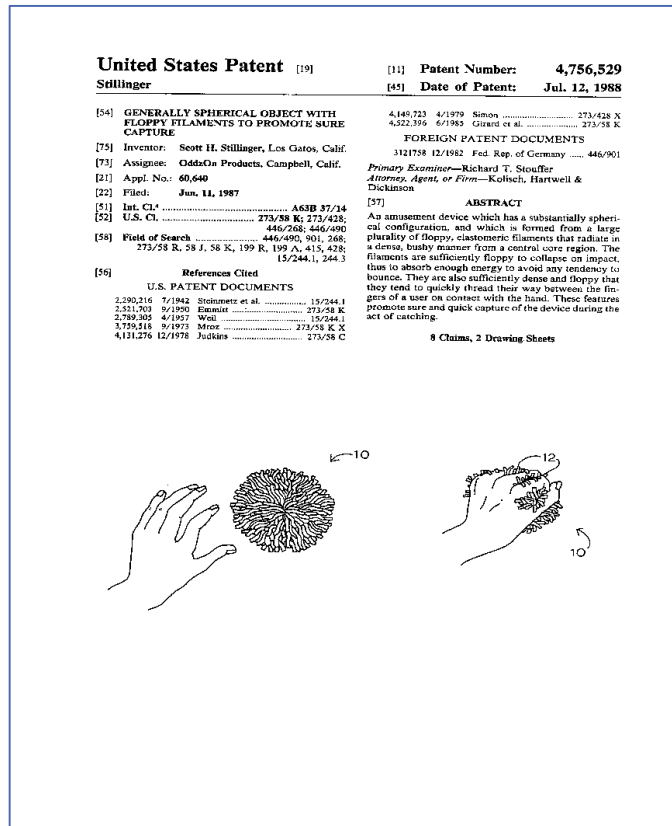


## Patent Title: “Spinning toy”

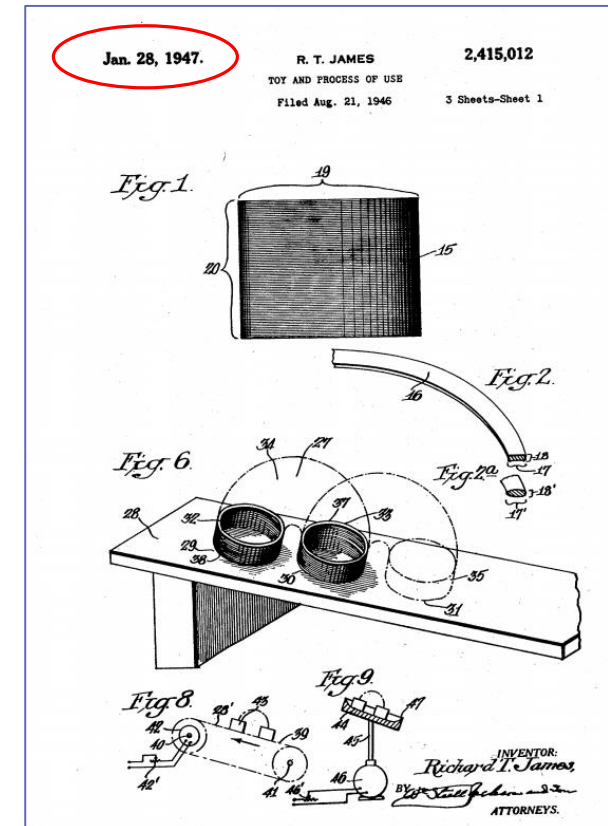


# WHAT PATENT IS THIS?

Patent Title: “Generally spherical object with floppy filaments to promote sure capture” (1988)



Patent Title: “Toy and process of use” (1947)



# ONLINE PATENT SEARCH TUTORIAL (USPTO)

Preview Video: [How to Conduct a Preliminary U.S. Patent Search: A Step by Step Strategy](#) (38 minutes)

Download a PDF of the updated patent search strategy:  
[http://www.uspto.gov/sites/default/files/documents/7\\_Step\\_US\\_Patent\\_Search\\_Strategy\\_Guide\\_2015\\_rev.pdf](http://www.uspto.gov/sites/default/files/documents/7_Step_US_Patent_Search_Strategy_Guide_2015_rev.pdf)

Additional patent search tutorials:

- <http://libguides.gatech.edu/c.php?g=53972&p=348356>

# THE 7-STEP STRATEGY BY THE USPTO

1. **Brainstorm terms** to describe your invention based on its *purpose, composition and use*.

2. Use these terms to find initial relevant **CPC** using the **USPTO website's Site Search box** ([www.uspto.gov](http://www.uspto.gov)).

3. Verify the relevancy of **CPC** classification you found by **reviewing the CPC Classification Definition** linked to it (if there is one).

4. Retrieve U.S. patent documents with the **CPC** classification you selected in the PatFT (Patents Full-Text and Image) database (<http://patft.uspto.gov>).

5. Using this selected set of most relevant patent publications, **review each one in-depth** for similarity to your own invention, esp. additional drawings pages, the specification and especially the claims. References cited may lead you to additional relevant patents.

6. Retrieve U.S. published patent applications with the **CPC** classification you selected in Step 3 in the AppFT database (<http://appft.uspto.gov>).

7. **Broaden your search** to find additional U.S. patent publications using keyword searching in PatFT or AppFT, classification searching of non-U.S. patents on the EPO's Worldwide Espacenet patent database.

# BRAIN STORM

## Description of Invention

### What does it do?

- Essential function of the invention

### What's the end result?

- Essential effect or basic product resulting from the invention

### What is it made of?

- Physical structure of the invention

### What is it used for?

- Intended use for the invention

## Example: A heated dog bowl

A bowl that holds and heats water for dogs

Liquid is kept above freezing using a heating element

Aluminum, stainless steel, electric heating element, electric cord

Could be also used for other liquids, soft food, other pets and animals, too

# BRAIN STORM

## Synonyms

Dog, cat, pet, bird, animal, et  
Bowl, dish, receptacle, cylinder,  
etc.

Warm, heat, melt,  
temperature, frozen, freeze,  
etc.

Electric, electricity, cord,  
battery, element, etc.

## Next Step

Look up terms in Patent  
Classification

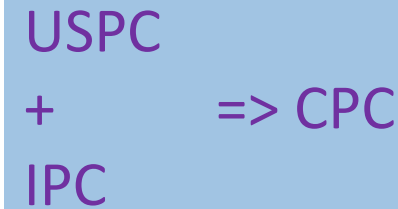




# PATENT CLASSIFICATIONS

CPC – Cooperative Patent Classification - a common classification scheme (260K entries)

- Developed and used by USPTO and EPO
- Implemented in Jan. 2013.
- To be extended to other offices



USPC  
+  
IPC  
=> CPC

USPC – US Patent Classification (170K entries)

- Stopped signing USPC to new utility patents beginning Jan. 2015

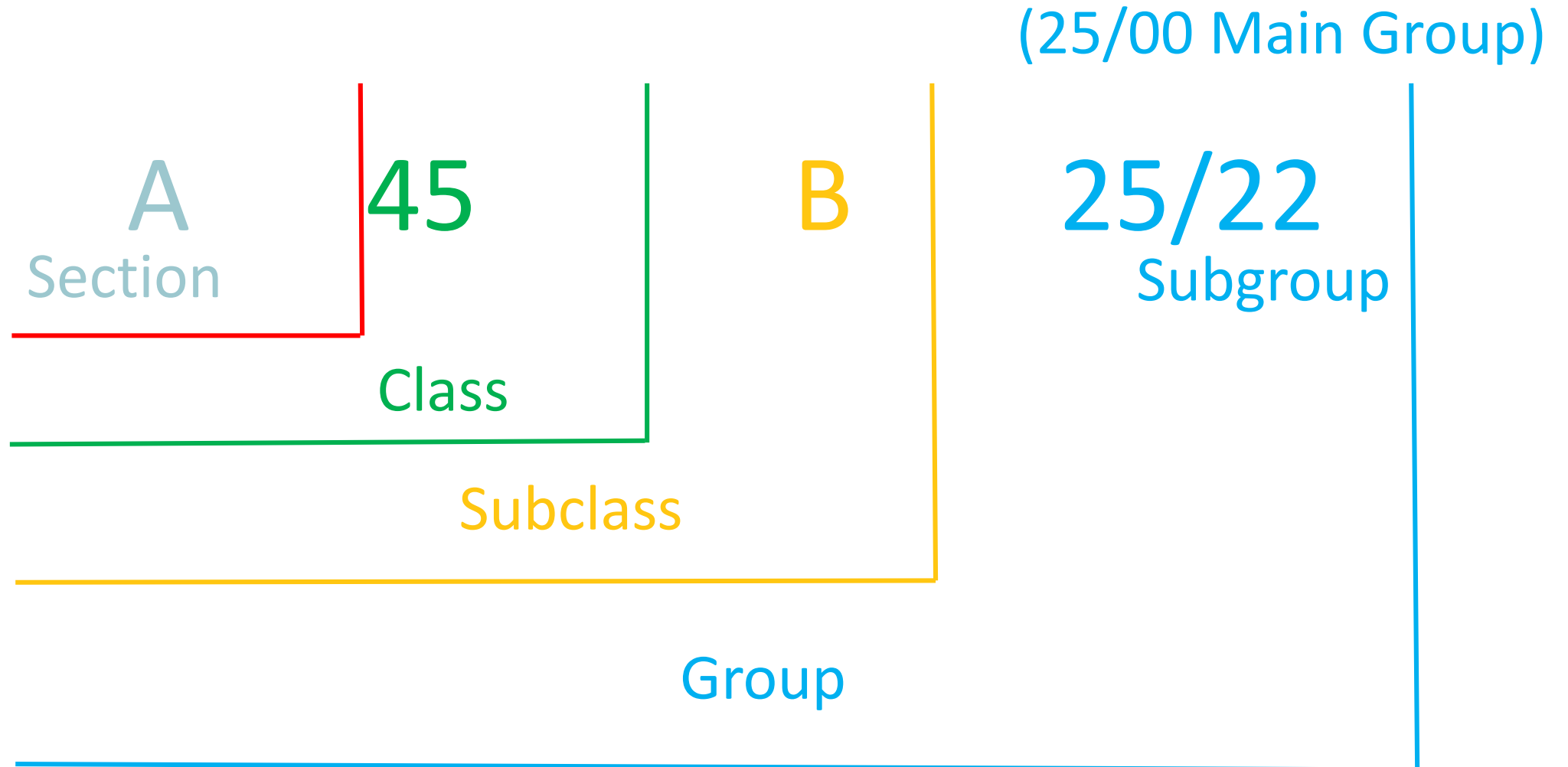
IPC – International Patent Classification (70K entries)

- Used by many other patent offices

# CPC SECTIONS

Symbol	Classification and description
<b>A</b>	<b>HUMAN NECESSITIES</b>
<b>B</b>	<b>PERFORMING OPERATIONS; TRANSPORTING</b>
<b>C</b>	<b>CHEMISTRY; METALLURGY</b>
<b>D</b>	<b>TEXTILES; PAPER</b>
<b>E</b>	<b>FIXED CONSTRUCTIONS</b>
<b>F</b>	<b>MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING ENGINES OR PUMPS</b>
<b>G</b>	<b>PHYSICS</b>
<b>H</b>	<b>ELECTRICITY</b>
<b>Y</b>	<b>GENERAL TAGGING OF NEW TECHNOLOGICAL DEVELOPMENTS; GENERAL TAGGING OF CROSS-SECTIONAL TECHNOLOGIES SPANNING OVER SEVERAL SECTIONS OF THE IPC; TECHNICAL SUBJECTS COVERED BY FORMER USPC CROSS-REFERENCE ART COLLECTIONS [XRACs] AND DIGESTS</b>

# CPC ANATOMY: A45B25/22



# CPC HIERATICAL VIEW

A45B25/22

A - HUMAN NECESSITIES

- A45 - HAND OR TRAVELLING ARTICLES
- A45B - WALKING STICKS; UMBRELLAS
- A45B25/00 - Details of umbrellas
- **A45B25/22** - Devices for increasing the resistance of umbrellas to wind

# CPC CLASSIFICATION EXAMPLE- ESPACENET VIEW

**Cooperative Patent Classification**

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

« A45B23/00 A45B27/00 »

Symbol	Classification and description	
<input type="checkbox"/> <b>A</b>	HUMAN NECESSITIES	
<b>PERSONAL OR DOMESTIC ARTICLES</b>		
<input type="checkbox"/> <b>A45</b>	HAND OR TRAVELLING ARTICLES	
<input type="checkbox"/> <b>A45B</b>	WALKING STICKS (walking aids, e.g. sticks, for blind persons <a href="#">A61H 3/06</a> ); UMBRELLAS; LADIES' OR LIKE FANS (cane or umbrella stands or holders <a href="#">A47G 25/12</a> )	
<b>Umbrellas</b> (tables with means for holding umbrellas <a href="#">A47B 37/04</a> )		
<input checked="" type="checkbox"/> <b>A45B 25/00</b>	<b>Details of umbrellas</b> (sticks for umbrellas <a href="#">A45B 1/00</a> - <a href="#">A45B 9/00</a> ; illuminating devices for umbrellas <a href="#">A45B 3/02</a> ; {sockets or holders for poles or posts <a href="#">E04H 12/22</a> })	
<input type="checkbox"/> <b>A45B 25/22</b>	• Devices for increasing the resistance of umbrellas to wind	

**Definitions**

**Definition statement**

*This place covers:*

# CPC INVENTIVE (PUBEAST/PUBWEST)

CPCI: Inventive

CPC .... **B60S 1/48** (2013.01); **B60S 1/50** (2013.01);  
**C02F 1/42** (2013.01); **C02F 2307/00** (2013.01);  
**C02F 2103/001** (2013.01); **C02F 2303/24**  
(2013.01)

CPCA: Additional

(12) **United States Patent**  
**Carroll**

(10) **Patent No.:** **US 9,000,000 B2**  
(45) **Date of Patent:** **Apr. 7, 2015**

(54) **WINDSHIELD WASHER CONDITIONER**

(56) **References Cited**

(71) Applicant: **WiperFill Holdings, LLC**, Jupiter, FL  
(US)

(72) Inventor: **Matthew Carroll**, Jupiter, FL (US)

(73) Assignee: **WiperFill Holdings, LLC**, Jupiter, FL  
(US)

(\*) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 163 days.

## U.S. PATENT DOCUMENTS

2,701,897	A	2/1955	Leming	
2,703,127	A *	3/1955	Webb	383/41
2,770,017	A	11/1956	Oishei et al.	
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6,089,620	A *	7/2000	Mota Lopez et al.	285/322
6,266,842	B1	7/2001	Muller	
2004/0112411	A1 *	6/2004	Boykin et al.	134/28

(21) Appl. No.: **13/797,259**

(22) Filed: **Mar. 12, 2013**

(65) **Prior Publication Data**

US 2013/0240419 A1 Sep. 19, 2013

## FOREIGN PATENT DOCUMENTS

DE	4101820	A1 *	7/1992		B60S 1/46
DE	4436023	A1 *	4/1995		B60S 1/48
DE	EP1053922		11/2000		
DE	20022285		7/2001		
DE	10138466		4/2003		
DE	102005055714		3/2007		

## Related U.S. Application Data

(60) Provisional application No. 61/610,275, filed on Mar.  
13, 2012.

(51) **Int. Cl.**  
**B60S 1/48** (2006.01)  
**B60S 1/50** (2006.01)  
**C02F 1/42** (2006.01)  
**C02F 103/00** (2006.01)

*Primary Examiner* — Matthew O Savage

(74) *Attorney, Agent, or Firm* — McHale & Slavin, P.A.

(52) **U.S. Cl.**  
CPC .... **B60S 1/48** (2013.01); **B60S 1/50** (2013.01);  
**C02F 1/42** (2013.01); **C02F 2307/00** (2013.01);  
**C02F 2103/001** (2013.01); **C02F 2303/24**  
(2013.01)

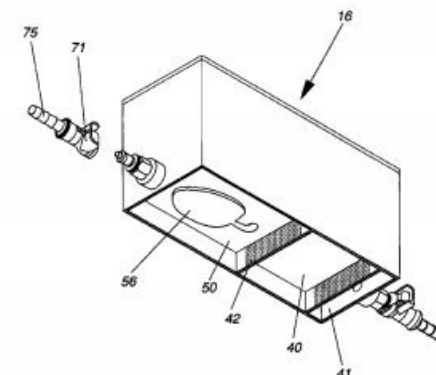
## ABSTRACT

A system and method of collecting and conditioning rainwater and other moisture, such as dew, from a windshield of a vehicle and utilizing the collected fluid to replenish the fluids in the windshield washer reservoir. A collection funnel is positioned on a vehicle in order to collect rainwater and other moisture. Rainwater and other fluids from the collection funnel are directed to a conditioning cartridge where the water is de-ionized and windshield washer fluid is added. The cartridges are designed to be single replaceable units. The mixed fluid from the mixing cartridge is directed to the pre-existing windshield washer reservoir.

(58) **Field of Classification Search**  
CPC ..... B60S 1/48; B60S 1/50; C02F 1/42;  
C02F 2001/425; C02F 2001/427  
USPC ..... 15/250.01; 134/109; 222/187; 210/95;  
210/171, 172.1, 198.1, 202, 232, 251, 266,  
210/282, 289, 502.1

See application file for complete search history.

**10 Claims, 8 Drawing Sheets**



# HOW TO FIND THE RELEVANT CLASSIFICATION?

- Search the USPTO site (<http://www.uspto.gov/web/patents/classification/>)
- CPC Scheme (keyword)
- USPC Index -> USPC -> Statistical Mapping to CPC

Search the EPO site (<http://worldwide.espacenet.com>)

- CPC (keyword)

Search Google Patents (<https://patents.google.com>)

- Keyword Search and identify classification from selected patents
- Limit to classification

# PATENT DATABASES

Free Patent Databases Online:

- USPTO web: **PatFT, AppFT, Public PAIR**
  - <http://www.uspto.gov>
- **Espacenet**
  - <http://worldwide.espacenet.com>
- **Google Patents**
  - <https://patents.google.com/>
- PatentScope (WIPO)
  - <https://patentscope.wipo.int/>

FreePatentsOnline

- <http://www.freepatentsonline.com/>

LENS (Patent Lens)

- <https://www.lens.org/lens/>

Pat2PDF

- <http://www.pat2pdf.org/>

Special Patent Databases at PTRCs

- PubEAST
- PubWEST

Georgia Tech only

- SciFinder;
- Derwent Innovation Index;
- InnovationQ Plus



# PATENT DATABASE COMPARISON

	PatFT/AppFT	Espacenet	Google Patents
Pros	<ul style="list-style-type: none"> <li>- Advanced search allows <u>detailed field search</u>.</li> <li>- Quick navigation within large result set</li> <li>- <u>CPC</u> classification search back to <u>1790</u></li> <li>- <u>Full text</u> search from <u>1976</u></li> </ul>	<ul style="list-style-type: none"> <li>- One of the largest international patent database (over 100 m. ) from 100+ offices</li> <li>- Search <u>by titles</u> back to <u>1920</u> for major offices</li> <li>- Search <u>CPC</u> back to <u>1800s</u></li> <li>- <u>Export</u> data (title, applicant, assignee, CPC) up to 500 per page</li> <li>- Proximity search</li> </ul>	<ul style="list-style-type: none"> <li>- <u>Familiar</u> search engine with defaults to relevance ranking.</li> <li>- Very <u>fast</u>.</li> <li>- Search granted patent and pre-grant application <u>at once</u></li> <li>- Search for <u>pre 1976 text</u> (OCR search)</li> </ul>
Cons	<ul style="list-style-type: none"> <li>- <u>Separate</u> search for <u>granted</u> patent and <u>pre-grant</u> published applications</li> <li>- Slow navigation from result list to full text and back</li> <li>- No proximity search (can only do phrase search in quotes or Boolean AND, OR, and ANDNOT)</li> </ul>	<ul style="list-style-type: none"> <li>- <u>PDF</u> navigation can be a bit <u>slow</u></li> <li>- <u>No full text</u> search except EPO and WIPO documents</li> </ul>	<ul style="list-style-type: none"> <li>- <u>Limited fields</u> are separately searchable</li> <li>- Search <u>algorithm</u> changes</li> <li>- <u>No guarantee</u> of completeness</li> </ul>

# DISCUSSION: WHY PATENT SEARCH?

Scenario: Joe attended a patent seminar at a PTRC and went home to conduct his own preliminary patent search. After hours of research, he found prior art showing the same claims.

- *Is it good or bad?*
  - Think about time, money, efforts, process, up-to-date knowledge
- *What should Joe do next?*
  - Find a patent attorney, or Pro Bono Program
  - Conduct freedom to operate (FTO) search
  - Keep improving

# HOW TO FILE?

- EFS-Web for Registered eFilers : Enhanced filing, follow-on processing, saved submissions and more.

EFS-Web for Unregistered eFilers : Basic initial filing of new patent applications

(not permitted to file follow-on submissions/fees in EFS-Web).

- Create MyUSPTO account at: <https://www.uspto.gov>
- EFS-Web FAQs (<https://www.uspto.gov/patents-application-process/applying-online/efs-web-faqs>)

# ADDITIONAL INFORMATION/HELP

Registered Patent **Attorneys and Agents:** <https://oedci.uspto.gov/OEDCI/practitionerSearch.jsp>

**Pro Bono** Program for Georgia – Georgia Patents (<http://gapatents.org>)

- **Phone:** 404-873-3911

[Law School Clinic Certification Program](#)

**USPTO Inventors Assistance Center (IAC)** (<https://www.uspto.gov/learning-and-resources/support-centers/inventors-assistance-center-iac>)

- Toll-free: **800-PTO-9199** (800-786-9199) - Hours: M-F, 8:30 AM – 8:00 PM (ET), except federal holidays

**USPTO Pro Se Assistance Program** (<http://www.uspto.gov/prosepatents>)

- **Email:** [IndependentInventor@uspto.gov](mailto:IndependentInventor@uspto.gov)
- **Toll free phone number:** 1-866-767-3848

USPTO [Patent Electronic Business Center](#)

- **Toll free phone number:** 1-866-217-9197

**Southeastern Inventors Association** (<http://www.southeasterninventors.org/>)

**IP Awareness Assessment:** <https://ipassessment.uspto.gov/>

Georgia Tech PTRC: [http://libguides.gatech.edu/patent\\_guide/](http://libguides.gatech.edu/patent_guide/)

- **Email:** [patentscoordinator@library.gatech.edu](mailto:patentscoordinator@library.gatech.edu); **Phone:** 404-385-7185

# FURTHER READINGS

- Gordon, T. (2013). *Patent fundamentals for scientists and engineers* (3rd ed.). CRC Press.
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- Nard, Craig Allen (2011). *The law of patents*, 2<sup>nd</sup> ed. Wolters Kluwer.
- Pressman, D., Blau, D. (2018). *Patent it yourself: your step-by-step guide to filing at the U.S. Patent Office* (19th ed.). Nolo Press.

QUESTIONS?

# PART II: DEMOS & HANDS-ON PRACTICES

