

***Intellectual Property Rights
(IPR):
Patents***

Rogério de Lemos

- ◆ *Dr Marcus Goodall (KIE)*
- ◆ *A lot of lecturers before me...*

July 7, 1936.

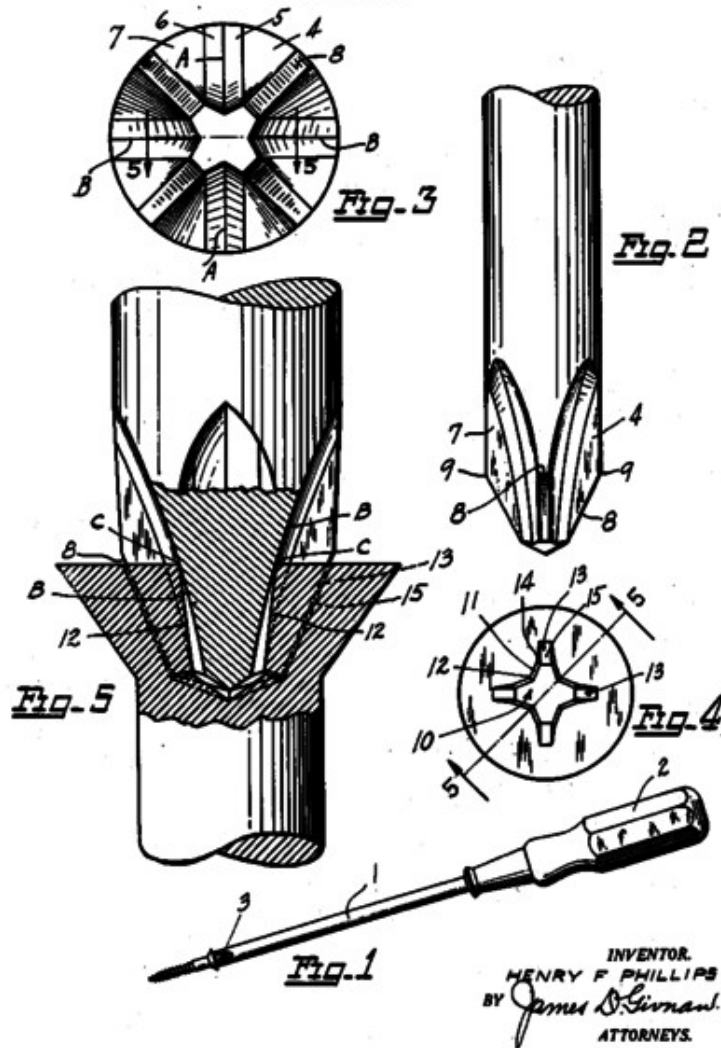
H. F. PHILLIPS

2,046,837

MEANS FOR UNITING A SCREW WITH A DRIVER

Filed July 3, 1934

2 Sheets-Sheet 1



Patents

A government authority or licence conferring a right or title for a set period, especially the sole right to exclude others from making, using, or selling an invention.

What is a Patent?

‘A patent may be understood as a monopoly right over the commercial exploitation of an invention, granted for a limited time (usually 20 years).’

(T. Aplin & J. Davies – Intellectual Property Law (2013))

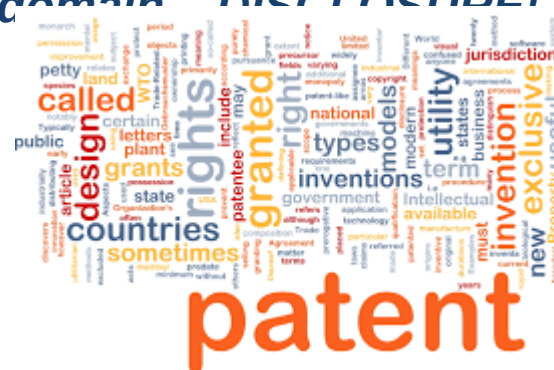
What can be patented?

An invention can be a new product, a new process, a new apparatus for performing a process or, in certain circumstances, a new use of a known product.

In order to be patented, inventions must be: -

- 1) New
- 2) Not obvious in light of what has been done before
- 3) Have a practical application

An invention cannot be patented if knowledge of it is already in the public domain



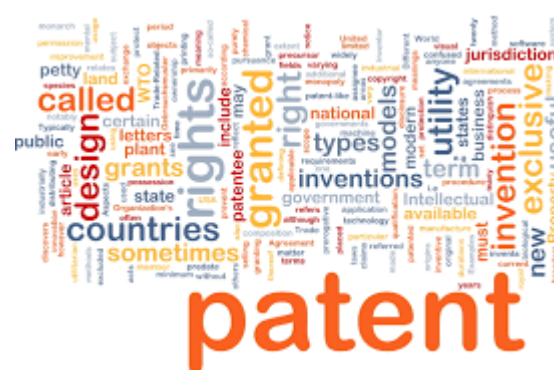
University of Kent

What can be patented?

An invention can be a new product, a new process, a new apparatus for performing a process or, in certain circumstances, a new use of a known product.

If a patent can be said to be anticipate or there is such evidence of use or “prior art” *anywhere*, then the invention will be deprived of novelty.

- Merely because the invention is simple does not deny it patentability
- Discovery by accident does not deprive patentability
- Not bound by theory
- Once filed you're free to discuss





US006285999B1

(12) **United States Patent**
Page

(10) **Patent No.:** **US 6,285,999 B1**
(45) **Date of Patent:** **Sep. 4, 2001**

(54) **METHOD FOR NODE RANKING IN A LINKED DATABASE**

(75) Inventor: **Lawrence Page**, Stanford, CA (US)

(73) Assignee: **The Board of Trustees of the Leland Stanford Junior University**, Stanford, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/004,827**

(22) Filed: **Jan. 9, 1998**

Craig Boyle "To link or not to link: An empirical comparison of Hypertext linking strategies". ACM 1992, pp. 221-231.*

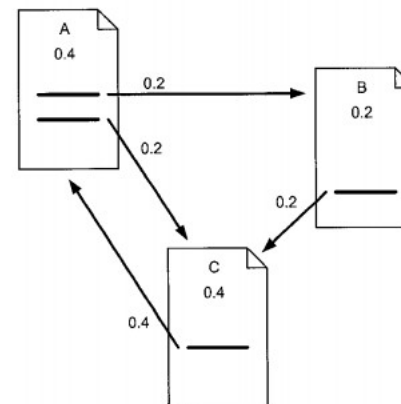
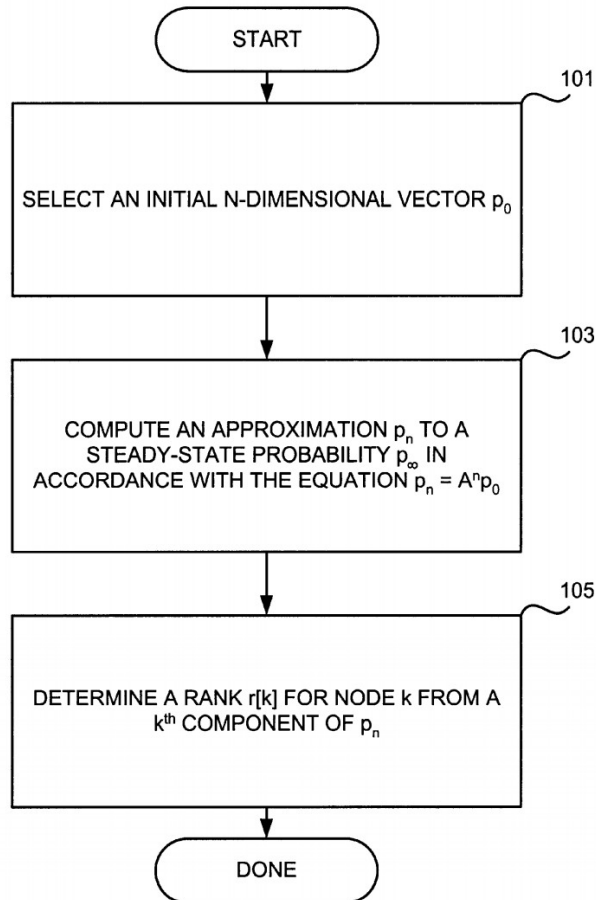
L. Katz, "A new status index derived from sociometric analysis," 1953, Psychometrika, vol. 18, pp. 39-43.

C.H. Hubbell, "An input-output approach to clique identification sociometry," 1965, pp. 377-399.

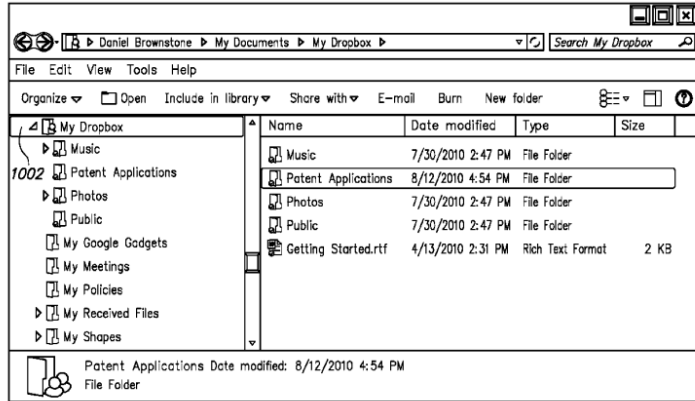
Mizuchi et al., "Techniques for disaggregating centrality scores in social networks," 1996, Sociological Methodology, pp. 26-48.

E. Garfield, "Citation analysis as a tool in journal evaluation," 1972, Science, vol. 178, pp. 471-479.

Pinski et al., "Citation influence for journal aggregates of scientific publications: Theory, with application to the literature of physics," 1976, Inf. Proc. And Management, vol. 12, pp. 297-312.



Example of a Dropbox Patent



US008825597B1

(12) **United States Patent**
Houston et al.

(10) **Patent No.:** **US 8,825,597 B1**
(45) **Date of Patent:** **Sep. 2, 2014**

(54) **NETWORK FOLDER SYNCHRONIZATION**

(75) **Inventors:** **Drew Houston**, San Francisco, CA
(US); **Arash Ferdowsi**, San Francisco,
CA (US)

(73) **Assignee:** **Dropbox, Inc.**, San Francisco, CA (US)

(*) **Notice:** Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 271 days.

(21) **Appl. No.:** **12/856,581**

(22) **Filed:** **Aug. 13, 2010**

8,055,644	B2	11/2011	Crowley et al.	
8,095,495	B2 *	1/2012	Clark et al.	706/48
8,156,074	B1 *	4/2012	Multer et al.	707/610
8,443,040	B2 *	5/2013	Schauser et al.	709/204
8,554,791	B1 *	10/2013	Lavin	707/781
2004/0039781	A1 *	2/2004	LaVallee et al.	709/205
2004/0210591	A1 *	10/2004	Hirschfeld et al.	707/100
2005/0044162	A1 *	2/2005	Liang et al.	709/212
2005/0246389	A1 *	11/2005	Shah et al.	707/200
2006/0117056	A1 *	6/2006	Havewala et al.	707/102
2006/0184652	A1 *	8/2006	Teodosiu et al.	709/221
2006/0224602	A1 *	10/2006	Rawat et al.	707/100
2007/0100834	A1 *	5/2007	Landry et al.	707/10
2007/0174246	A1 *	7/2007	Sigurdsson et al.	707/3
2009/0254601	A1 *	10/2009	Moeller et al.	709/201

OTHER PUBLICATIONS

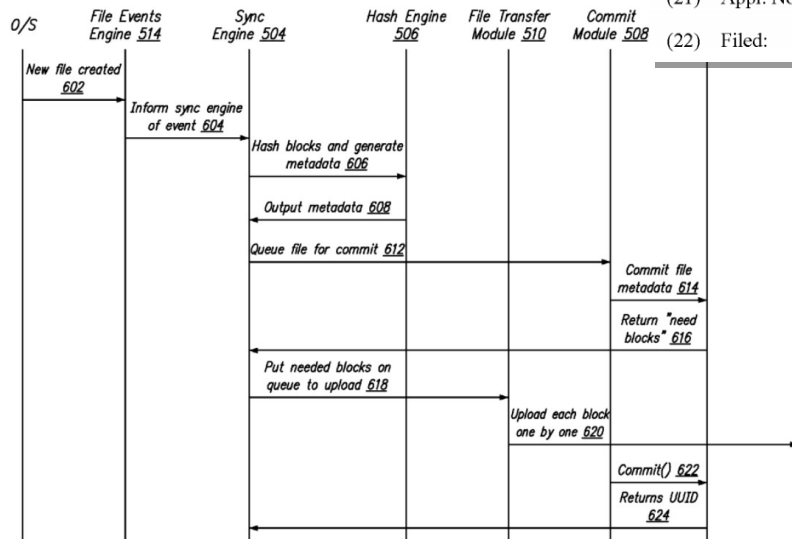
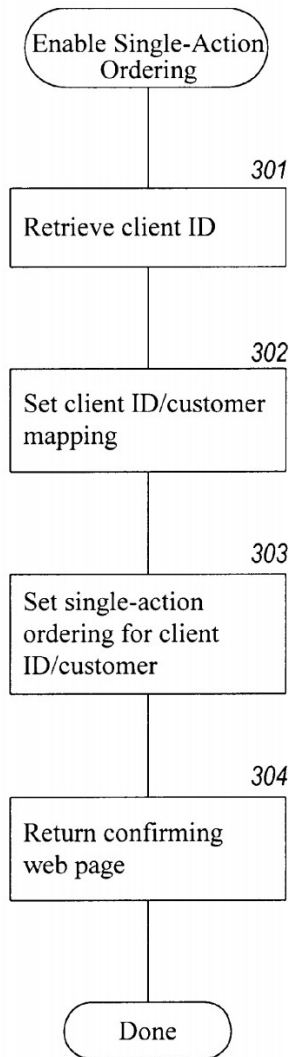


FIG. 6

Example of an Amazon Patent



US005960411A

United States Patent [19] Hartman et al.

[11] **Patent Number:** **5,960,411**
[45] **Date of Patent:** **Sep. 28, 1999**

[54] **METHOD AND SYSTEM FOR PLACING A PURCHASE ORDER VIA A COMMUNICATIONS NETWORK**

[75] **Inventors:** Peri Hartman; Jeffrey P. Bezos; Shel Kaphan; Joel Spiegel, all of Seattle, Wash.

[73] **Assignee:** Amazon.com, Inc., Seattle, Wash.

[21] **Appl. No.:** 08/928,951

[22] **Filed:** Sep. 12, 1997

[51] **Int. Cl.⁶** G06F 17/60

[52] **U.S. Cl.** 705/26; 705/27; 345/962

[58] **Field of Search** 705/26, 27; 380/24, 380/25; 235/2, 375, 378, 381; 395/188.01; 345/962

"Pacific Coast Software Software creates virtual shopping cart." Sep. 6, 1996. M2 Communications Ltd 1996.

"Software Creates Virtual Shopping Cart." Sep. 5, 1996. Business Wire, Inc.

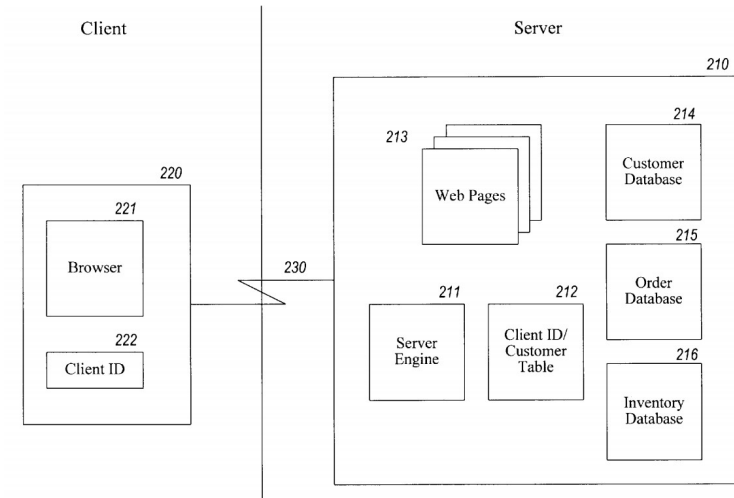
Terdoslavich, William. "Java Electronic Commerce Framework." Computer Reseller News, Sep. 23, 1996, CMP Media, Inc., 1996, pp. 126, http://www.elibrary.com/id/101/101/getdoc...rydocid=902269@library_d&dtype=0-0&dinst=. [Accessed Nov. 19, 1998].

"Internet Access: Disc Distributing Announces Interactive World Wide." Cambridge Work-Group Computing Report, Cambridge Publishing, Inc., 1995, http://www.elibrary.com/id/101/101/getdoc...docid=1007497@library_a&dtype=0-0&dinst=0. [Accessed Nov. 19, 1998].

(List continued on next page.)

Primary Examiner—James P. Trammell

Assistant Examiner—Demetra R. Smith





US009244147B1

(12) **United States Patent**
Soundararajan et al.

(10) **Patent No.:** **US 9,244,147 B1**
(45) **Date of Patent:** **Jan. 26, 2016**

(54) **AUTOMATED PACKAGE DELIVERY TO A DELIVERY RECEPTACLE**

(71) Applicant: **GOOGLE INC.**, Mountain View, CA (US)

(72) Inventors: **Varun Soundararajan**, Sunnyvale, CA (US); **Anurag Agrawal**, Palo Alto, CA (US)

(73) Assignee: **GOOGLE INC.**, Mountain View, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/520,987**

(22) Filed: **Oct. 22, 2014**

2008/0262718 A1 * 10/2008 Farwell 701/207
2013/0332008 A1 * 12/2013 Herman et al. 701/2
2014/0022055 A1 1/2014 Levien et al.
2014/0032034 A1 1/2014 Raptopoulos et al.
2014/0149244 A1 5/2014 Abhyanker
2014/0204360 A1 7/2014 Dowski et al.
2014/0254896 A1 9/2014 Zhou et al.

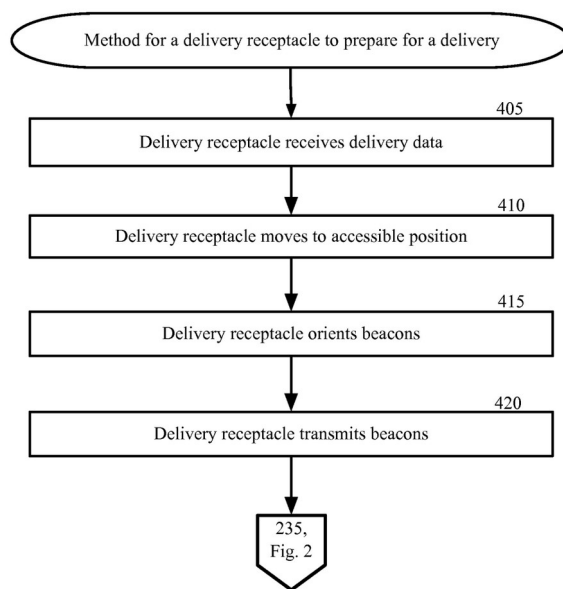
OTHER PUBLICATIONS

Berthon, "International Search Report and Written Opinion issued in copending PCT Application No. PCT/US2015/028817 filed May 1, 2015", Jul. 14, 2015, 1-10.
Berthon, "International Search Report and Written Opinion issued in copending PCT Application No. PCT/US2015/028823 filed May 1, 2015", Jul. 14, 2015, 1-10.

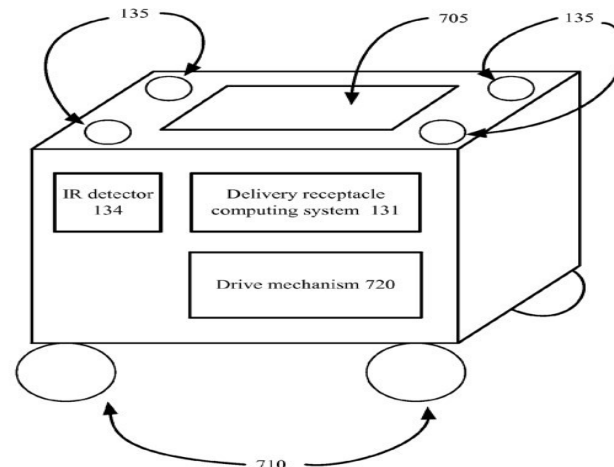
(Continued)

Primary Examiner — Thomas Tarcza

Assistant Examiner — Alex C Dunn



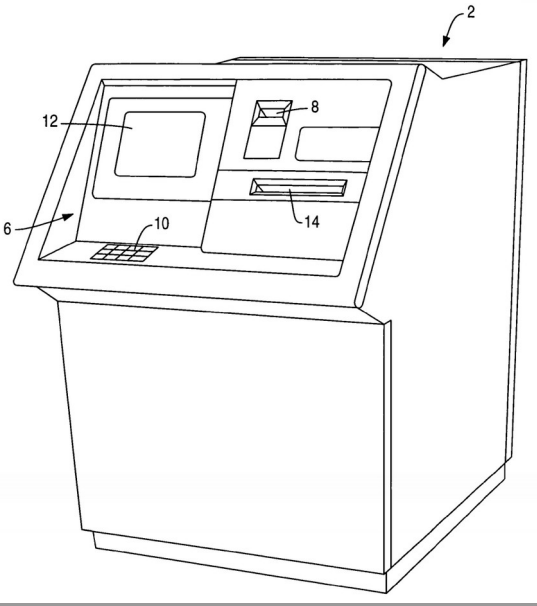
130



Example of a “cool” Patent



US007815103B2



(12) **United States Patent**
Timmis et al.

(10) **Patent No.:** **US 7,815,103 B2**
(45) **Date of Patent:** **Oct. 19, 2010**

(54) **METHOD OF AND SYSTEM FOR
PREDICTION OF THE STATE OF HEALTH
OF AN APPARATUS**

(75) Inventors: **Jon Timmis**, York (GB); **Rogério de Lemos**, Canterbury (GB); **Modupe Ayara**, Chafford Hundred (GB); **Simon J. Forrest**, Dundee (GB)

(73) Assignee: **NCR Corporation**, Duluth, GA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 740 days.

4,931,963	A *	6/1990	Kimura et al.	235/376
5,563,393	A *	10/1996	Coutts	235/379
5,960,381	A *	9/1999	Singers et al.	702/183
6,766,232	B1	7/2004	Klausner	
7,232,063	B2 *	6/2007	Fandel et al.	235/376
2002/0091972	A1 *	7/2002	Harris et al.	714/47

FOREIGN PATENT DOCUMENTS

EP	0 326 188	8/1989
EP	1153368 A1	11/2001
GB	2 378 248 A	2/2003
WO	WO 01/43079 A1	6/2001
WO	WO 0218879 A1 *	3/2002
WO	WO 02/054223 A1	7/2002

* cited by examiner

(21) Appl. No.: **11/288,778**

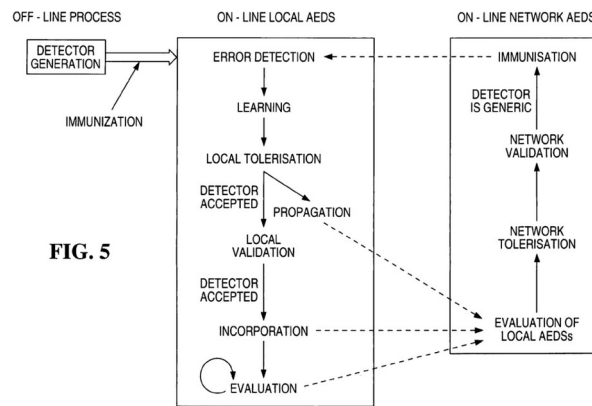
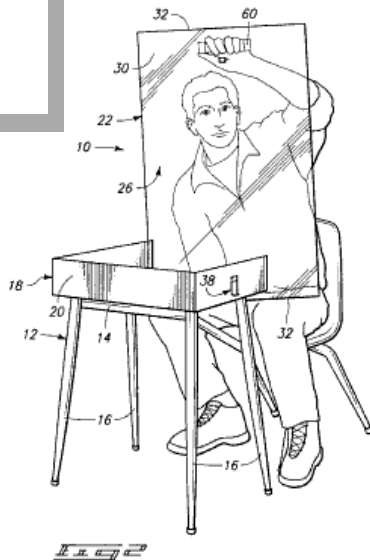
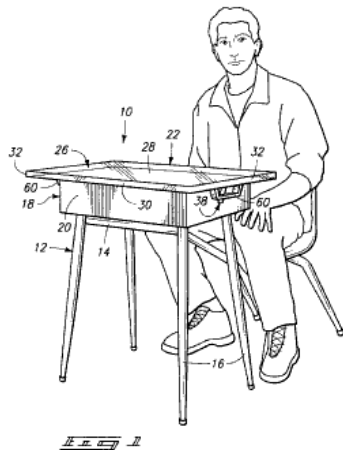


FIG. 5

Example of an “opportunistic” Patent

U.S. Patent Jan. 9, 2001 Sheet 1 of 6 US 6,170,379 B1



US006170379B1

(12) **United States Patent**
Taylor

(10) **Patent No.:** **US 6,170,379 B1**
(45) **Date of Patent:** **Jan. 9, 2001**

(54) **DESK AND REMOVABLE BULLET
RESISTANT DESK TOP SHIELD**

(76) Inventor: **James R. Taylor**, 19921 E. Micaview,
Greenacres, WA (US) 99016

(*) Notice: Under 35 U.S.C. 154(b), the term of this
patent shall be extended for 0 days.

(21) Appl. No.: **09/339,001**

(22) Filed: **Jun. 23, 1999**

5,326,606 * 7/1994 Labock 89/36.07
5,336,848 8/1994 Katz 174/35 R
5,506,051 4/1996 Levy-Borochoy et al. 428/332
5,554,816 9/1996 Skaggs et al. 89/36.17

FOREIGN PATENT DOCUMENTS

1584270 * 10/1970 (DE) .
2301671 * 10/1976 (FR) .
2447443 * 9/1980 (FR) .
2558284 * 7/1985 (FR) .

* cited by examiner

Rationales/ Justifications

Rewarding the inventor

Incentive function

As industrial/ technical progress is seen as important for society as a whole, inventions and their exploitation are necessary in the securing of such progress.

Public Benefits rationale

Information function – disclosure of the invention on publication of the application, which helps in the dissemination of information to help further innovation.

Patentability

S. 1 Patents Act 1977 – Patentable inventions

S. 1(1) A patent may be granted only for an invention in the following circumstances:

- (a) The invention is new; (NOVELTY)
- (b) It involves an inventive step;
- (c) It is capable of industrial application;

Excluded Categories under S. 1(2)

(1) A discovery, scientific theory or mathematical method.

a (2) A scheme, rule or method for performing a mental act, playing game or doing business, or a program for a computer.

(3) The presentation of information

Novelty

S. 2(1) – An invention shall be taken to be new if it does not form part of the state of the art.

- The state of the art is any information made available to the public anywhere in the world.
- A prior disclosure that enables an ordinary skilled person to perform the invention for which the patent is claimed means that it cannot be seen as novel.

Inventive Step

S.3 – An invention shall be taken to involve an inventive step if it is not obvious to a person skilled in the art.



(Rene Wuttig)

Software Patent – European Patent Office

The term 'software' is considered by the European Patent Office to be ambiguous because it may refer to a program listing written in a programming language to implement an algorithm, but also to binary code loaded in a computer-based apparatus, and it may also encompass the accompanying documentation.

Instead the concept of a computer-implemented invention has been introduced.

A computer-implemented invention is one which involved the use of a computer, computer network or other programmable apparatus, where one or more features are realised wholly or partly by means of a computer program.

Under the European Patent Convention, a computer program claimed "as such" is not a patentable invention. Patents are not granted merely for program listings.

For a patent to be granted for a computer-implemented invention, a technical problem has to be solved in a novel and non-obvious manner.

Patent: Key facts

- A patent lasts 20 years
- Can cover UK, EU or the World (but costs increase)
- Likely to cost £5K to start with and up to £250K over lifetime of patent
- A patent can be bought and sold like any other asset
- If you can't tell when somebody is using your patent it has little value

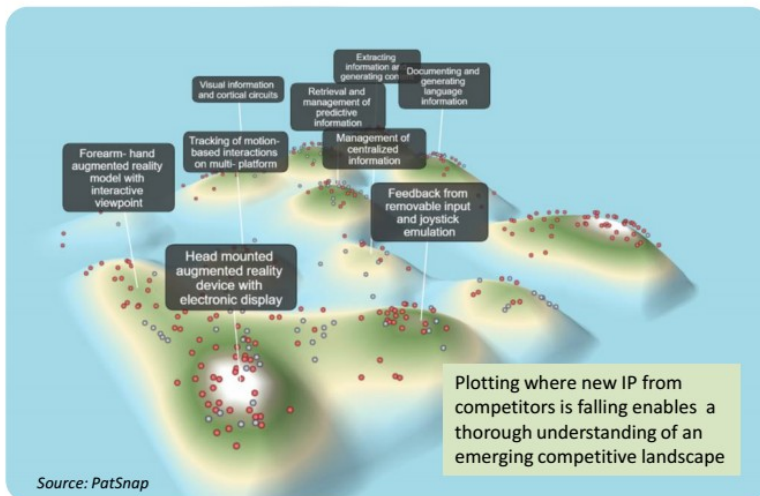
A patent only gives the owner the right to exclude others from making, using, selling and importing:

Carries with it no expectation for market success!



Patent Exploitation

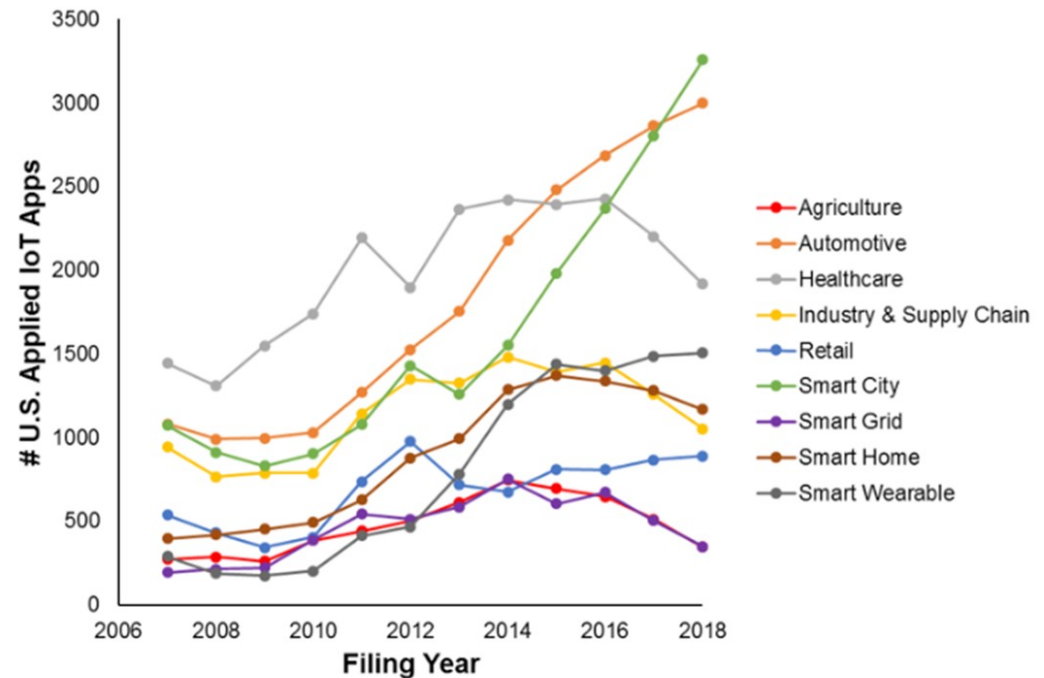
- How do you police IP?
- Protection versus education (of a competitor)
- Must continually innovate
- Note; Competitors will undertake whitespace analysis and 'armchair' patent applications



Patent Trend Analysis

- Freedom to operate
- Identify competitors
- Licensing opportunities
- Industry trends

Patent Trends: IoT Industry



Trends in patenting

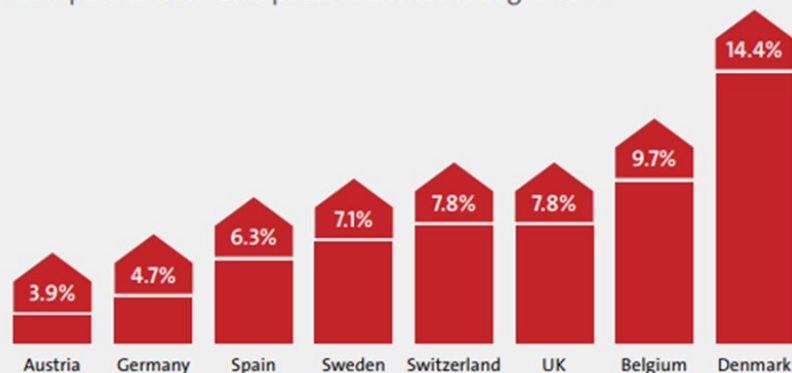
Europe is an attractive technology market for European and international companies

2018

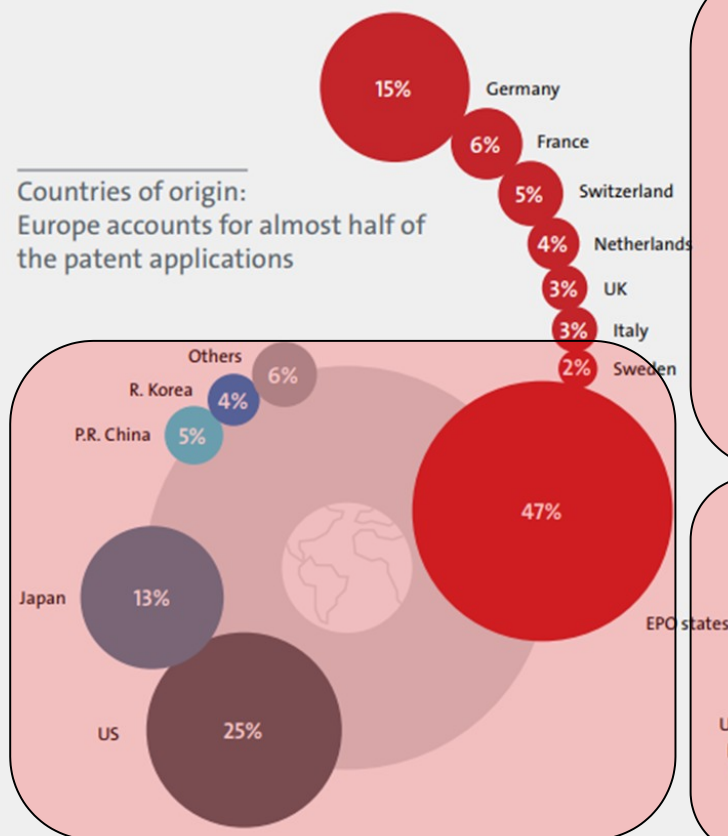
Patent applications at the European Patent Office continue to grow in 2018:



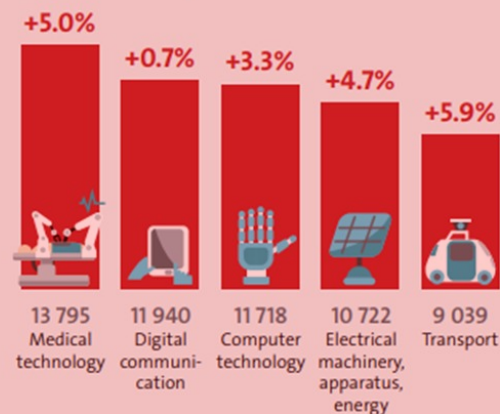
Companies from European countries fuel growth:



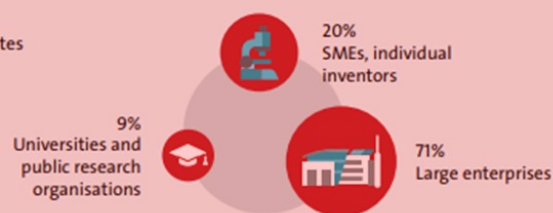
Countries of origin:
Europe accounts for almost half of the patent applications



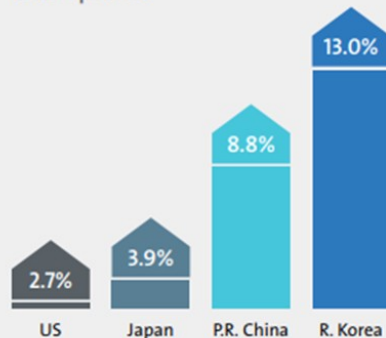
Top technology fields:



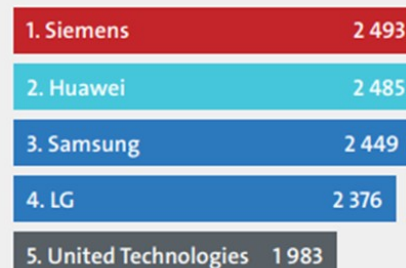
1 in 5 applications is filed by an SME:



Other global growth champions:

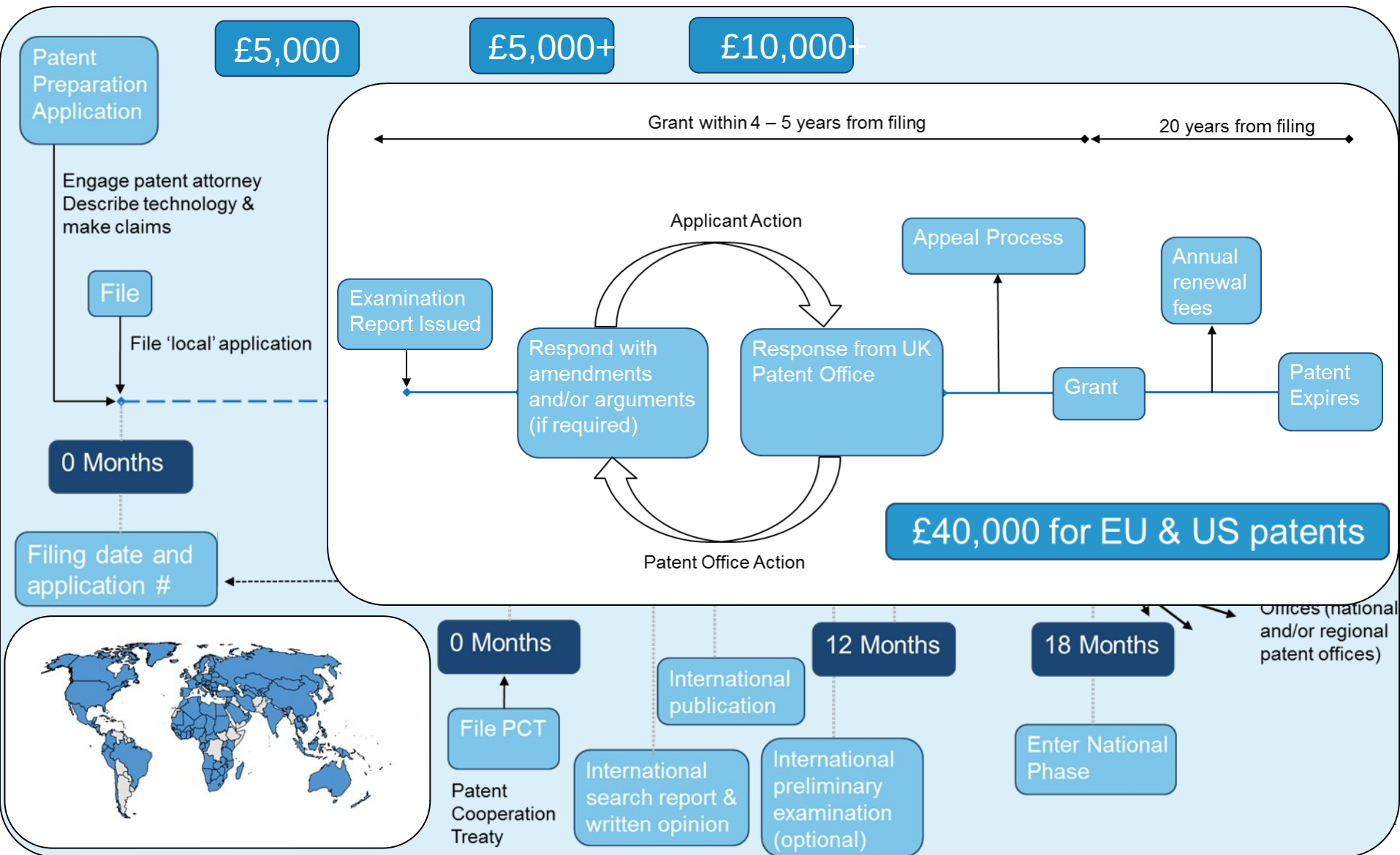


Top patent applicants:



All figures are based on European patent applications.
Source: EPO, Status: 21.1.2019.
epo.org/annual-report2018

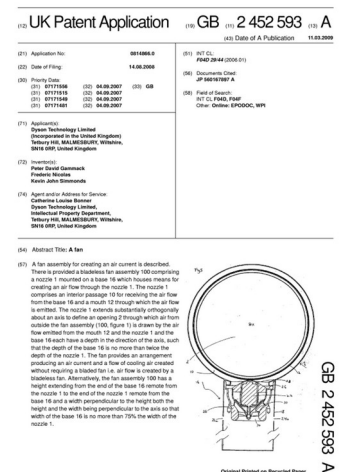




- Complexity of patented material, translations, No territories: ↑ protection cost

An Industrial perspective:

- Dyson's bladeless fans were launched in October 2009
- Copies were on the market by May 2010
- Majority manufactured in China
- Products spread swiftly from China to other countries
 - Trade fairs – especially Canton Fair
 - Mass emails
 - Listings on Alibaba.com and MadeInChina.com
- First copies were virtually exact replicas
- Designs morphed over time.



https://worldwide.espacenet.com/publicationDetails/biblio?CC=GB&NR=2452593A&KC=A&FT=D&ND=4&date=20090311&DB=EPODOC&locale=en_EP#

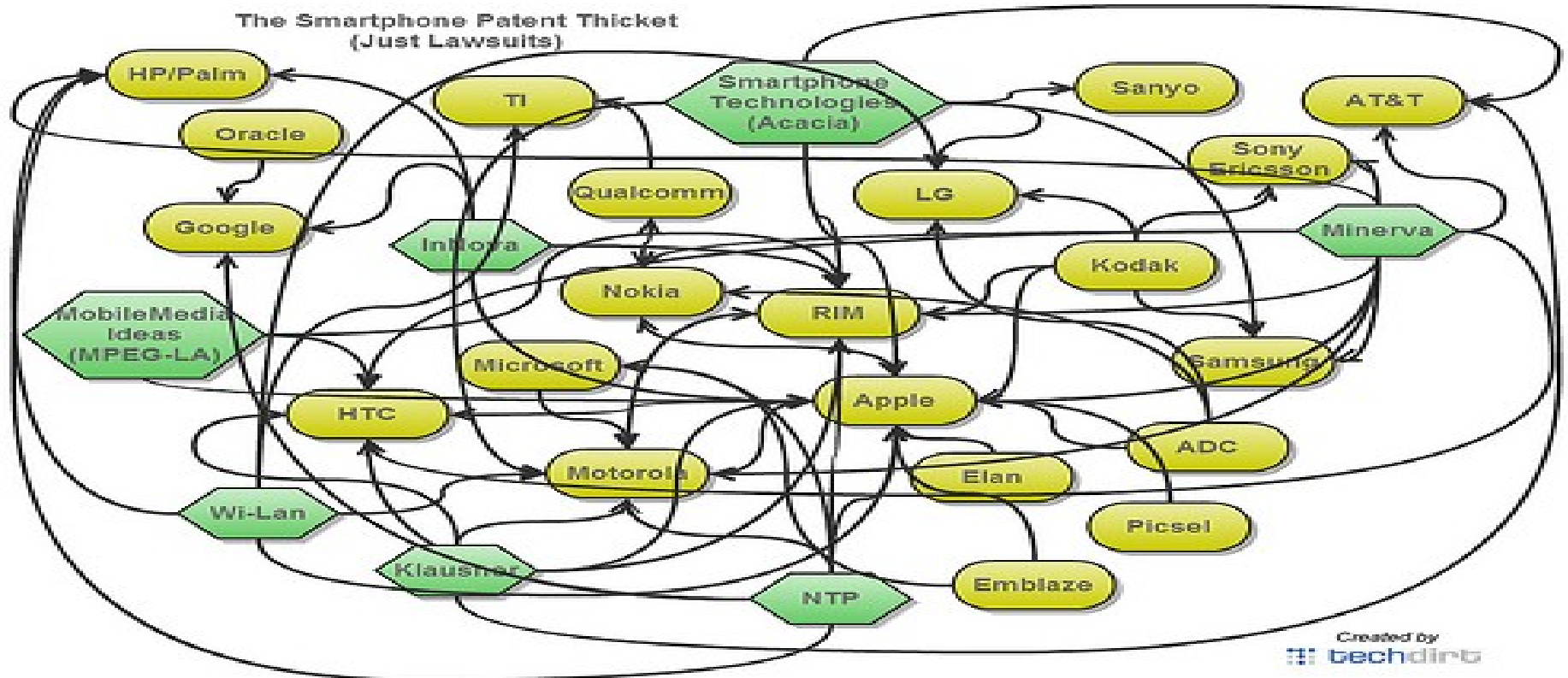
http://ipaware.org/wp-content/uploads/2018/03/Gill-Smith_20mar18.pdf

Patent Thickets

‘A dense web of overlapping intellectual property rights that a company must hack its way through in order to actually commercialise new technology.’

Carl Shapiro, ‘Navigating the Patent Thicket: Cross Licences, Patent Pools and Standard Setting’, in *Innovation Policy and the Economy* (Jaffe, Adam B et al (eds)) (2001) (MIT).

Patent Thicket's and the Mobile Phone Wars



Smartphone Royalty Stack

License costs can reach
\$120 for a \$400
smartphone.

Whereas component costs
are far less.



The Smartphone Royalty Stack Report – A. Armstrong, J. Mueller & T. Syrett (2014)

The Patent Troll

The troll attacks businesses using an arsenal of attorneys and vague software patents.



It has an immunity to patent lawsuits because it makes no products.



PATENT TROLL
Nonpracticing Entity
(It doesn't actually make anything)



The troll's primary weapon is the threat of massive legal fees.

(Inc.com)

Non-Practising Entities (NPE)

US Patents – July 2014

Intellectual Ventures	25-30K (Est)
Interdigital	3989
Road Rock Research LLC	3495
Wisconsin Alumni Research Foundation	2518
Rockstar Consortium LLC	2352

(Patentfreedom.com)

- ◆ Patent is the right over the commercialisation of an invention
- ◆ An invention should be new, an inventive step, and capable of industrial application
- ◆ Excluded from patents
 - ◆ e.g., discovery, scientific theory or mathematical method, a computer program, or the presentation of information
- ◆ Computer-implemented invention can be patented
 - ◆ involves the use of a computer in a technical problem that is solved in a novel and non-obvious manner