



Using and Exploiting Patent Information

Lusaka
July 16, 2014

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Overview

- Why search?
- Search types and their uses

Why search?

- To retrieve information needed to answer specific questions.

Questions

- Which technologies exist in a given field of technology?
- Who is active in a given field of technology?
- Is a given invention (claimed in a patent application) patentable?
- Can the validity of a given patent be challenged?
- Do patent rights exist on which a given product risks infringing?

State-of-the-art search

Questions

- Which technologies exist in a given field of technology?
- Who is active in a given field of technology?

Uses

- Plan R&D activities more efficiently (avoid duplication of effort).
- Decide whether to enter a market.
- Determine which areas are not sufficiently covered by existing players.
- Identify competitors or potential partners.

Novelty/patentability search

Question

- Is a given invention (claimed in a patent application) patentable?

Uses

- Decide whether to proceed with a patent application.
- Determine how to draft or amend claims to help ensure that they are accepted into the granted patent.

Validity/invalidity search

Question

- Can the validity of a given patent be challenged?

Uses

- Determine the enforceability of your own patents.
- Prepare an opposition/invalidity procedure against others' patents.
- Prepare a defense against lawsuits claiming infringement of others' patents.

Freedom-to-operate search

Question

- Do patent rights exist on which a given product risks infringing?

Uses

- Guide product design decisions.
- Identify patents that may need to be licensed.

State-of-the-art search (Review)

Questions

- Which technologies exist in a given field of technology?
- Who is active in a given field of technology?

Uses

- Plan R&D activities more efficiently (avoid duplication of effort).
- Decide whether to enter a market.
- Determine which areas are not sufficiently covered by existing players.
- Identify competitors or potential partners.

Document elements

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



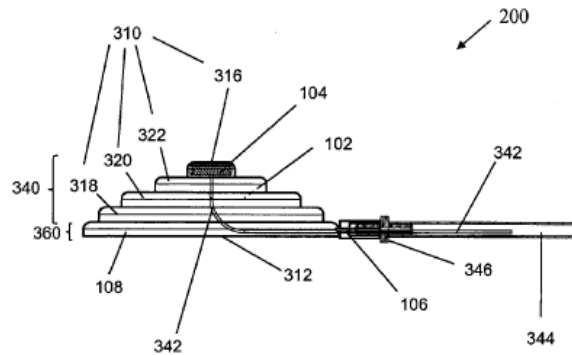
(10) International Publication Number
WO 2013/100853 A1

(43) International Publication Date
4 July 2013 (04.07.2013)

- (51) **International Patent Classification:**
A61H 15/00 (2006.01) *A61H 23/02* (2006.01)
- (21) **International Application Number:**
PCT/SG2011/000454
- (22) **International Filing Date:**
29 December 2011 (29.12.2011)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (71) **Applicant (for all designated States except US):** OSIM INTERNATIONAL LTD [SG/SG]; 65 Ubi Avenue 1, OSIM Headquarters, Singapore 408939 (SG).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** TAN, Kia Tong [SG/SG]; 40 Jalan Buloh Perindu, Singapore 457698 (SG). NEO, Kok Cheong [SG/SG]; Blk 267 Tampines St. 21 #03-41, Singapore 520267 (SG). REALUYO, Gilbert Casurog [PH/PH]; Calzada, Oas, Albay, Philippines 4505 (PH). CHEE, Evan [SG/SG]; 634 Veerasamy Road, #13-142, Singapore 200634 (SG).
- (74) **Agent:** VIERING, JENTSCHURA & PARTNER LLP; P.O. Box 1088, Rochor Post Office, Rochor Road, Singapore 911833 (SG).
- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:** — with international search report (Art. 21(3))

- Applicants and inventors
- Office
- Key dates
- Invention
- Citations
- Legal status

(54) **Title:** AIRBAG



(57) **Abstract:** According to one aspect, there is provided an airbag for applying a massage force, the airbag comprising: an inflat-

13/100853 A1

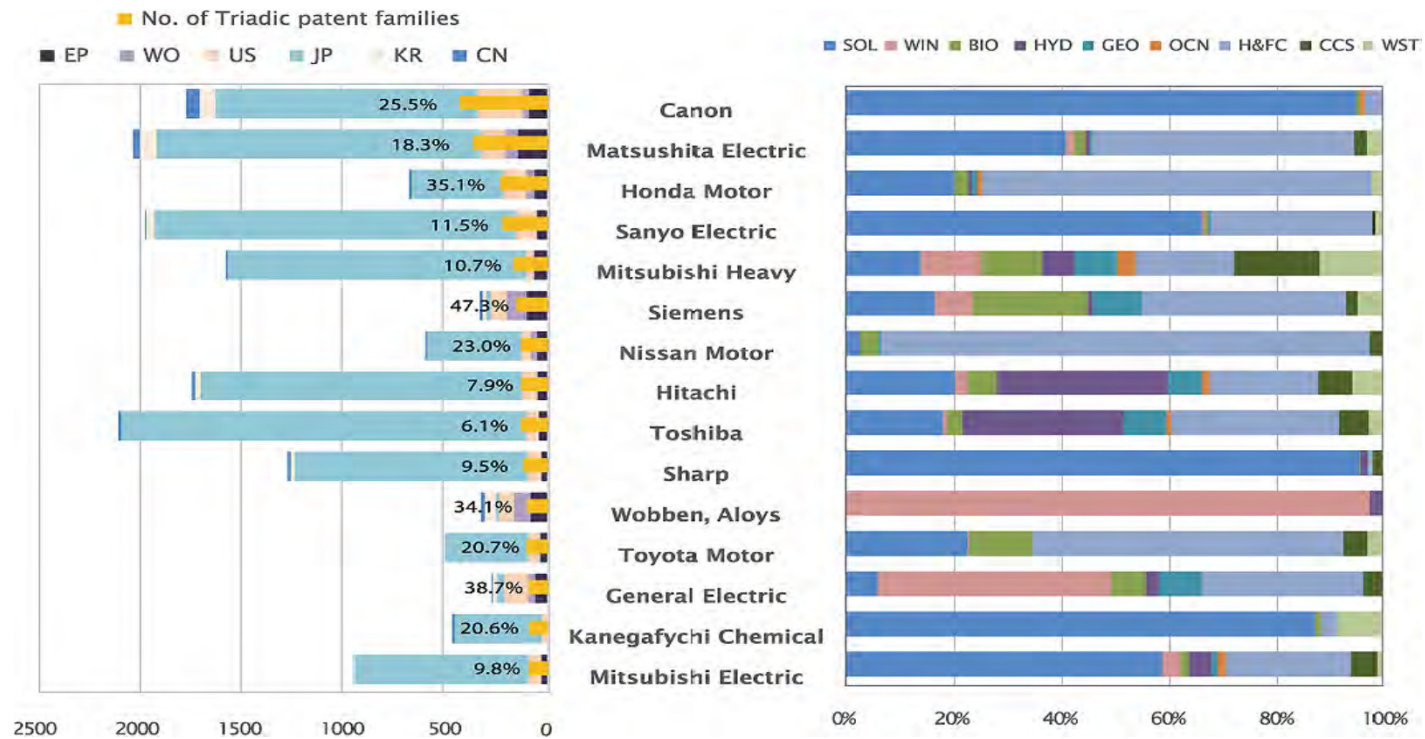
Levels of analysis

- Individual document
- Document sets (organized by document elements)

Analysis of document sets

- Applicant name → Top applicants, research collaborations
- Inventor name → Top inventors, research collaborations
- Applicant nationality / residence → Geographical distribution (origins)
- Office → Geographical distribution (targets)

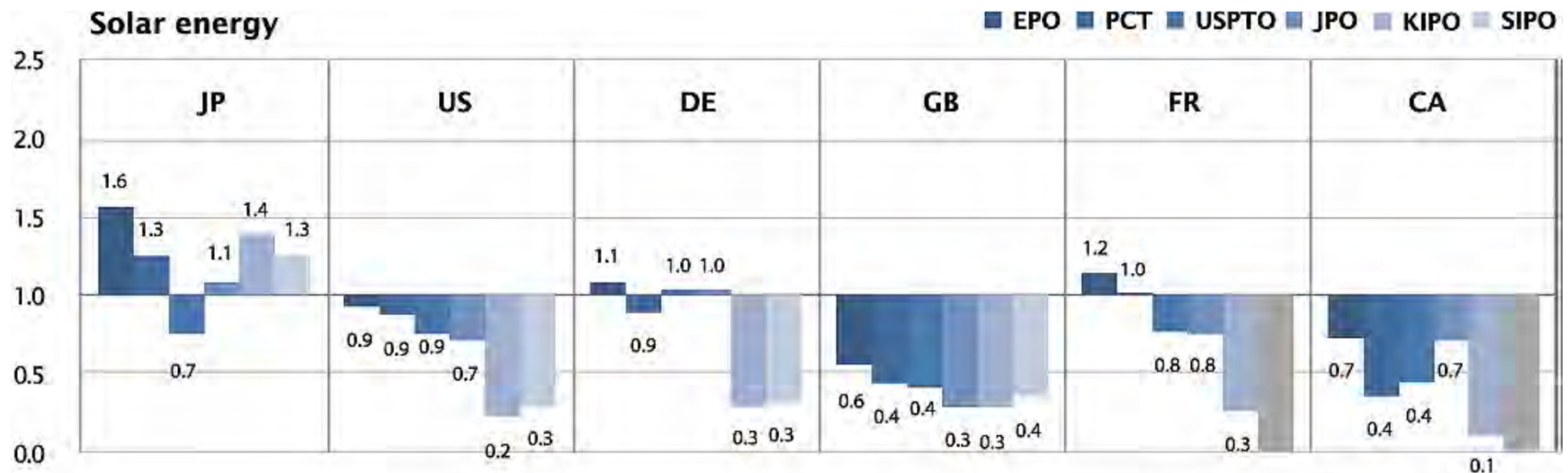
Top applicants



- Search by technology
- Breakdown by patent applicant (name)

Source: WIPO Patent-based Technology Analysis Report – Alternative Energy Technology

Geographical distribution



- Search by technology
- Breakdown by receiving office → normalized across offices

Source: WIPO Patent-based Technology Analysis Report – Alternative Energy Technology

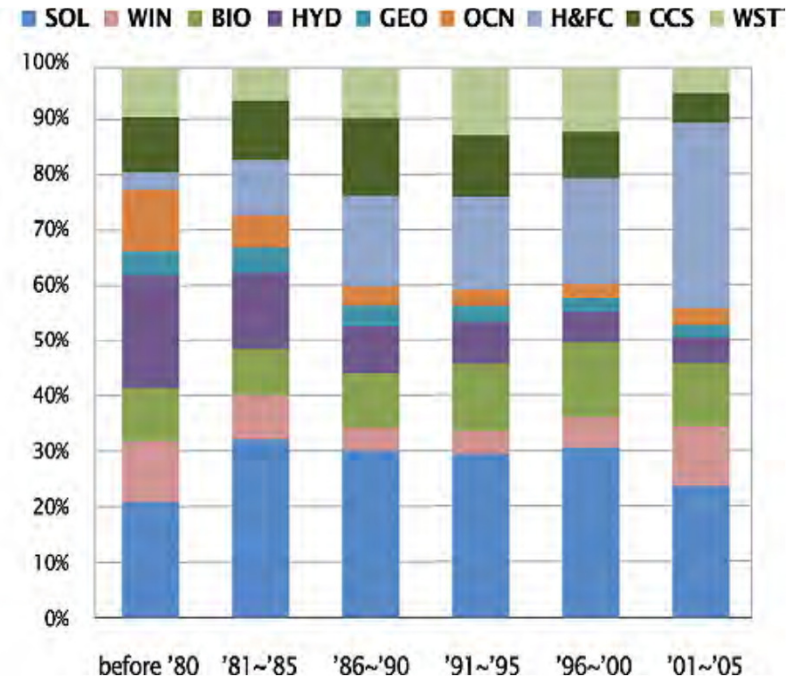
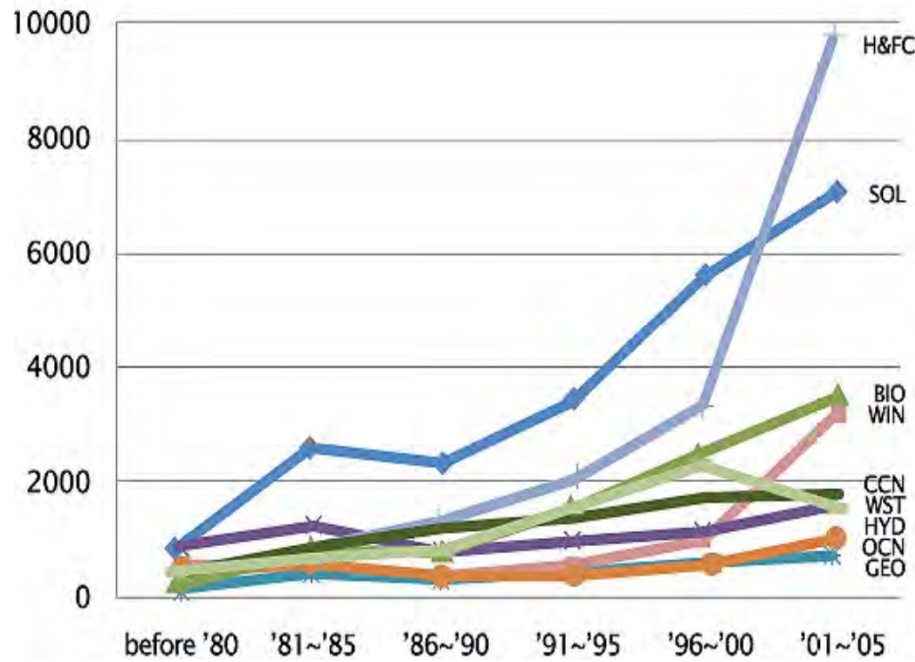
Uses

- Top applicants
 - Joint ventures
 - Mergers and acquisitions
 - Opportunities for transfer of technology and know-how
- Top inventors
 - Human resource planning
- Geographical distribution
 - Market analysis
 - Policy planning

Analysis of document sets

- Application date / publication date → Patenting trends
- Priority date (filter by legal status) → Patent lifecycle
- Applicant name vs. application date / publication date → Applicant patenting trends

Patenting trends



- Search by technology
- Breakdown by publication date

Source: WIPO Patent-based Technology Analysis Report – Alternative Energy Technology

Uses

- Patenting trends → Technology trends
- Geographical distribution → Policy analysis
- Patent lifecycle → Patent portfolio analysis and valuation
- Applicant patenting trends → R&D trends

Analysis of document sets

- Invention → Keyword maps
- Citations → Citation maps

Keyword maps



Source: Thomson Reuters


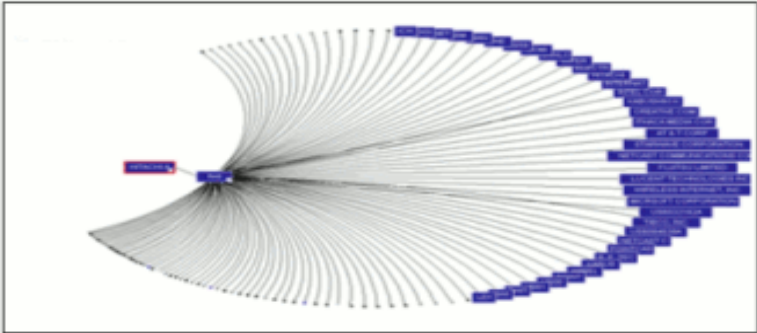
Citation maps

Citation Mapping Setup for Patent Record : US7029431B2 Citation Mapping Help | Close Citation Map

Use this screen to create a citation map for the record named in the title bar above (the target record) — you can map forward, backward, or both forward and backward citations for the target record — you can also select the number of generations or number of years of citations to map

Select Display Format:

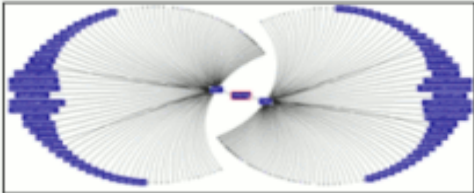
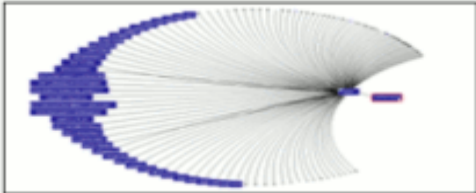
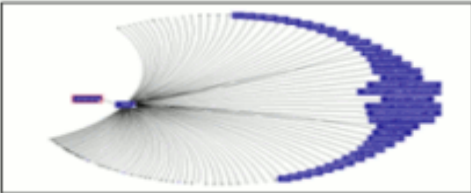
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1 Generation
1 Generation
2 Generations

Source: Intellogist

Uses

- Keyword maps
- Citation maps

- Research and technology linkages
- Other relevant/similar technology document linkages

Additional data

Patent data can also be combined with non-patent information

- Scientific and technical information
- Economic information
 - R&D expenditure data
 - Human resources data
- Legal information
 - Licensing information
 - Ownership information

Patent landscape reports

- Support tool for policy-makers (governments, R&D, academia) and industry
- Themes
 - Public Health
 - Climate Change / Energy
 - Food and Agriculture
- Collaborations
 - African Agricultural Technology Foundation
 - Food and Agriculture Organization of the United Nations
 - UNITAID/Medicines Patent Pool
 - World Health Organization

Patent landscape reports

Compilation of Published Patent Landscape Reports

Patent landscape reports on various topics have been published by international organizations, national intellectual property offices, non-governmental organizations and private sector entities. WIPO has compiled a list of such reports that are freely available or can be obtained upon request, either free of charge or for a fee.

Please note that this compilation is not exhaustive and that WIPO wishes to extend it. For that purpose, if you wish your report to be included or happen to know of other such reports, please contact patent.information@wipo.int

The patent landscape reports of this compilation have been grouped according to the following categories:

- [Public Health/Life Sciences](#)
- [Climate Change/Energy](#)
- [Food and Agriculture](#)
- [Other Patent Landscape Reports/Related Links](#)

Public Health/Life Sciences

TITLE	AUTHOR	DATE	LANGUAGE
Analysis of "Junk DNA" Patents	Cambia	2004	English
Determining the Patent Status of Essential Medicines in Developing Countries	MSF/WHO/UNAIDS Secretariat	2004	English
The Patenting of Human DNA: Global Trends in Public and Private Sector Activity	Science and Technology Policy Research (SPRU), University of Sussex	2006	English
Patent Landscape of H5N1 Influenza Virus	PIIPAWHOWIPO	2007	English
Patent Landscape of Adenoviral Vector Vaccines for HIV (Educational series report)	Pierce Law ITTI	2008	English

http://www.wipo.int/patentscope/en/programs/patent_landscapes/pl_existing_reports.html

Scenario

A research institute intends to focus its activities on the genetic engineering of maize. You have been asked to carry out the following tasks to support the work of the institute:

- Gather information about related inventions;
- Identify possible cooperation partners;
- Show how patenting activity in this area has evolved over time.

Tasks

- Gather information about related inventions
 - Retrieve individual documents
- Identify possible cooperation partners;
- Show how patenting activity in this area has evolved over time.
 - Analyze document sets

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Simple Search

Using PATENTSCOPE you can search 18,749,642 patent documents including 2,201,550 published international patent applications (PCT). Detailed coverage information can be found here (->)

Front Page

- Front Page
- Any Field
- Full Text
- English Text
- ID/Number
- Int. Classification(IPC)
- Names
- Dates

To improve the PATENTSCOPE search system, we have slightly modified some of the web pages. Here is a list of the

- simplified search interfaces (tabs rearranged, reorganized list of countries)
- more options for the results list such as FP Image View Only and the List Length
- improved navigation for the PDF viewer

Join our [webinar](#) on March 19 or 20 for a detailed description of those new features aiming to make the latest version of PATENTSCOPE more efficient for users.

Query

Genetic engineering

■ IC:("C12N 15/00" OR A01H)

Maize

■ ALLTXT:(maize OR corn OR mielie OR mealie OR "Zea mays" OR "Z mays")

→ IC:("C12N 15/00" OR A01H) AND ALLTXT:(maize OR corn OR mielie OR mealie OR "Zea mays" OR "Z mays")

Query



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Advanced Search

Search For:

IC:("C12N 15/00" OR A01H) AND ALLTXT:(maize OR corn OR melle OR mealie OR "Zea mays" OR "Z mays")

Language:

English

Stem:

Office: All [Specify](#)

All

PCT

Africa

ARIPO Kenya Morocco South Africa

Americas

LATIPAT

Argentina Brazil Chile Colombia Costa Rica Cuba Dominican Rep.

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Asia-Europe

European Patent Office Israel Japan Jordan Russian Federation







Russian Federation (USSR data) Singapore Spain Republic of Korea Viet Nam

Search

Reset

Tooltip Help

Results

Sort by: Relevance  							
No	Ctr	Title	PubDate	Int.Class	Appl.No	Applicant	Inventor
1.	EP	0846771 - Zea mays plants and transgenic zea mays plants regenerated from protoplasts or protoplast-derived cells	10.06.1998	A01H 5/00 	97811013	CIBA GEIGY AG	RICE DOUGLAS
<p>Methods of regenerating fertile Zea mays plants from protoplasts or protoplast-derived cells are described. The protoplasts or cells may be derived from embryogenic cell cultures or callus cultures. The protoplasts, cells and resulting plants may be transgenic, containing, for example, chimeric genes coding for a polypeptide having substantially the insect toxicity properties of the crystal protein produced by <i>Bacillus thuringiensis</i>.</p>							
2.	EP	1896594 - IMPROVED METHODS FOR THE PRODUCTION OF STABLY TRANSFORMED, FERTILE ZEA MAYS PLANTS	12.03.2008	C12N 15/82 	06763841	BASF PLANT SCIENCE GMBH	PENG JIANYING
<p>The present invention relates to improved methods for the incorporation of DNA into the genome of a Zea mays plant by means of <i>Agrobacterium</i>-mediated transformation. Preferred is the use of the Zea may lines deposited with American Type Culture Collection under the Patent Deposit Designation PTA-6170 and PTA-6171.</p>							
3.	WO	WO/2006/136596 - IMPROVED METHODS FOR THE PRODUCTION OF STABLY TRANSFORMED, FERTILE ZEA MAYS PLANTS	28.12.2006	C12N 15/82 	PCT/EP2006/063448	BASF PLANT SCIENCE GMBH	PENG, Jianying
<p>The present invention relates to improved methods for the incorporation of DNA into the genome of a Zea mays plant by means of <i>Agrobacterium</i>-mediated transformation. Preferred is the use of the Zea may lines deposited with American Type Culture Collection under the Patent Deposit Designation PTA-6170 and PTA-6171.</p>							
4.	WO	WO/2012/065166 - DOMINANT NEGATIVE MUTANT KIP-RELATED PROTEINS (KRP) IN ZEA MAYS AND METHODS OF THEIR USE	18.05.2012	C12N 15/82 	PCT/US2011/060598	TARGETED GROWTH, INC.	OLIVIER, Jean Paul
<p>The present invention provides expression vectors comprising polynucleotides encoding mutant Zea mays KRP dominant negative proteins, and methods of using the same. In addition, transgenic plants expressing said KRP dominant negative proteins are provided. Furthermore, methods of increasing average seed weight, seed size, seed number and/or yield of a plant by using said KRP dominant negative proteins are provided.</p>							

Individual document

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(74) Agent: KOCK, Michael; BASF Aktiengesellschaft,
67056 Ludwigshafen (DE).

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CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP,
KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT,
LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, NA,
NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC,
SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ,
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European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,
RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except US): BASF
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wigshafen (DE).

(72) Inventors and
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ing [—/US] (US), MRABET, Penny [—/US] (US),
BAGLEY, Christopher [US/US] (US), WANG, Zhongji
[—/US] (US), MANKIN, Luke [US/US]; 4800 Deerwood
Drive, Raleigh, NC 27612 (US), SIGNH, Bijay [—/US]
(US), LAI, Fang-Ming [CA/US]; 1207 Alderwood Court,
Apex, NC 27502 (US), MEI, Kangfeng [CA/US]; 1401
Ashley Downs Dr., Apex, NC 27502 (US), ZHANG,
Hongyi [US/US]; 5406 Hagemann Point Dr., Green Park,
MO 63128 (US).

Published:
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rately in electronic form and available upon request from
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For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: IMPROVED METHODS FOR THE PRODUCTION OF STABLY TRANSFORMED, FERTILE ZEA MAYS PLANTS

(57) Abstract: The present invention relates to improved methods for the incorporation of DNA into the genome of a *Zea mays* plant by means of *Agrobacterium*-mediated transformation. Preferred is the use of the *Zea mays* lines deposited with American Type Culture Collection under the Patent Deposit Designation PTA-6170 and PTA-6171.

WO 2006/136596 A2

- Applicants and inventors
- Office
- Key dates
- Invention data

Individual document: Description

IMPROVED METHODS FOR THE PRODUCTION OF STABLY TRANSFORMED, FERTILE *ZEA MAYS* PLANTS

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to improved methods for the incorporation of DNA into the genome of a *Zea mays* plant by means of *Agrobacterium*-mediated transformation.

Description of the Related Art

During the past decade, it has become possible to transfer genes from a wide range of organisms to crop plants by recombinant DNA technology. This advance has provided enormous opportunities to improve plant resistance to pests, diseases and herbicides, and to modify biosynthetic processes to change the quality of plant products. However, the availability of an efficient transformation method to introduce foreign DNA remains to be a substantial barrier for most monocot species, including maize.

Individual document: Description

DETAILED DESCRIPTION OF THE INVENTION

A first embodiment of the invention relates to a method for generating a transgenic *Zea mays* plant comprising the steps of

- a. isolating an immature embryo of a *Zea mays* plant, and
- b. co-cultivating said isolated immature embryo, which has not been subjected to a dedifferentiation treatment, with a soil-borne bacterium belonging to genus *Rhizobiaceae* comprising at least one transgenic T-DNA, said T-DNA comprising at least one selectable marker gene, with a co-cultivation medium, and
- c. transferring the co-cultivated immature embryos to a recovering medium comprising
 - i. an effective amount of at least one antibiotic that inhibits or suppresses the growth of soil-borne bacterium, and
 - ii. L-proline in a concentration from about 1 g/l to about 10 g/l, and
 - iii. silver nitrate in a concentration from about 1 μ M to about 50 μ M, and
 - iv. an effective amount of at least one auxin compound, but not comprising an effective amount of a phytotoxic selection agent, and
- d. inducing formation of embryogenic callus and selecting transgenic callus on a medium comprising,
 - i. an effective amount of at least one auxin compound, and
 - ii. an effective amount of a selection agent allowing for selection of cells comprising the transgenic, and

Results

Results 1-10 of **18,280** for Criteria: IC:("C12N 15/00" OR A01H) AND ALLTXT:(maize OR corn OR mielie OR mealie OR "Zea mays" OR "Z mays") Office(s):all Language:EN Stemming: true

prev 1 2 3 4 5 6 7 8 9 10 next Page: 1 / 1829 [Go >](#)

Refine Search IC:("C12N 15/00" OR A01H) AND ALLTXT:(maize OR corn OR mielie OR mealie OR "Zea mays" OR "Z mays") [Search](#) [RSS](#) [Query Tree](#)

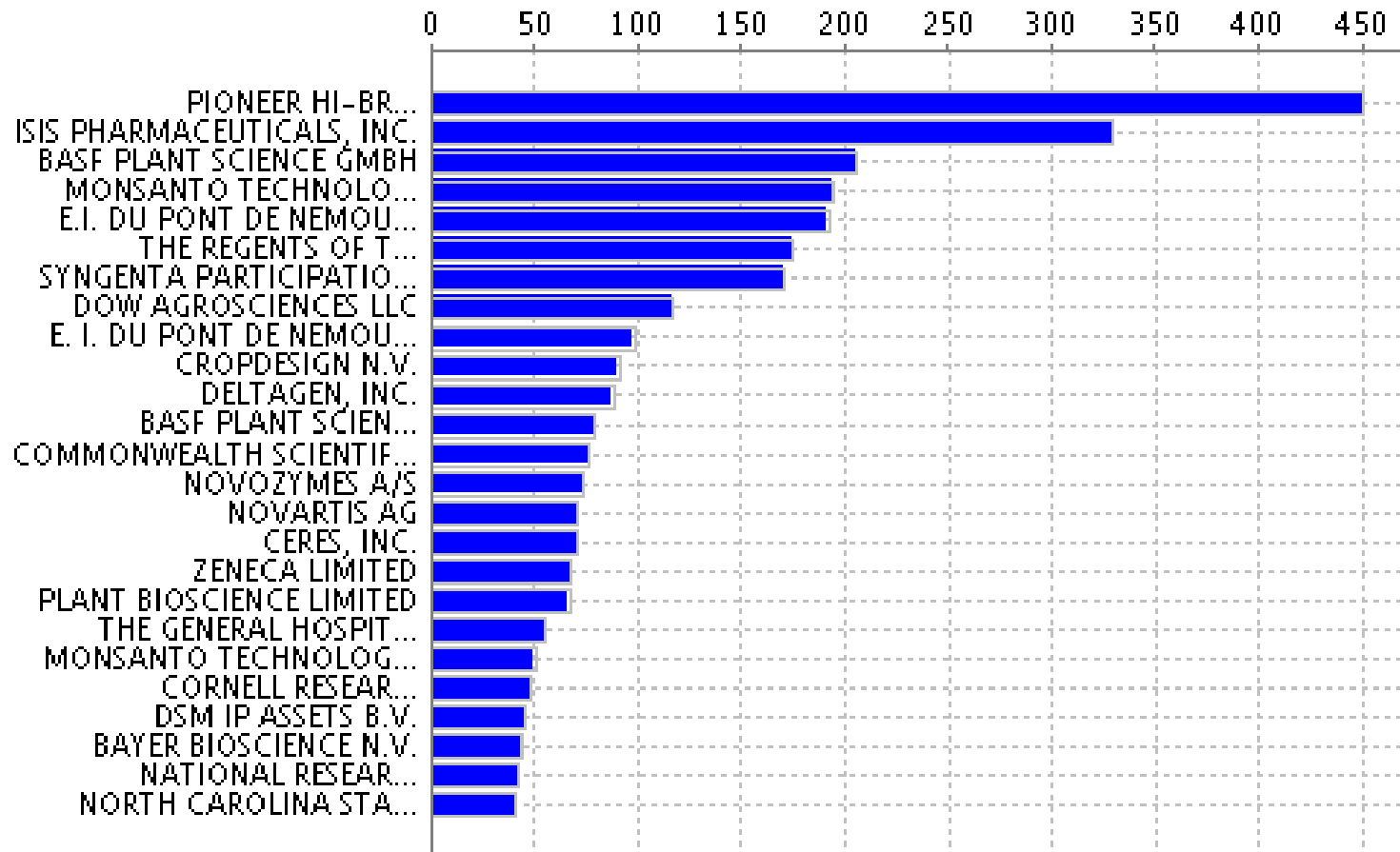
Results: Analysis

Analysis

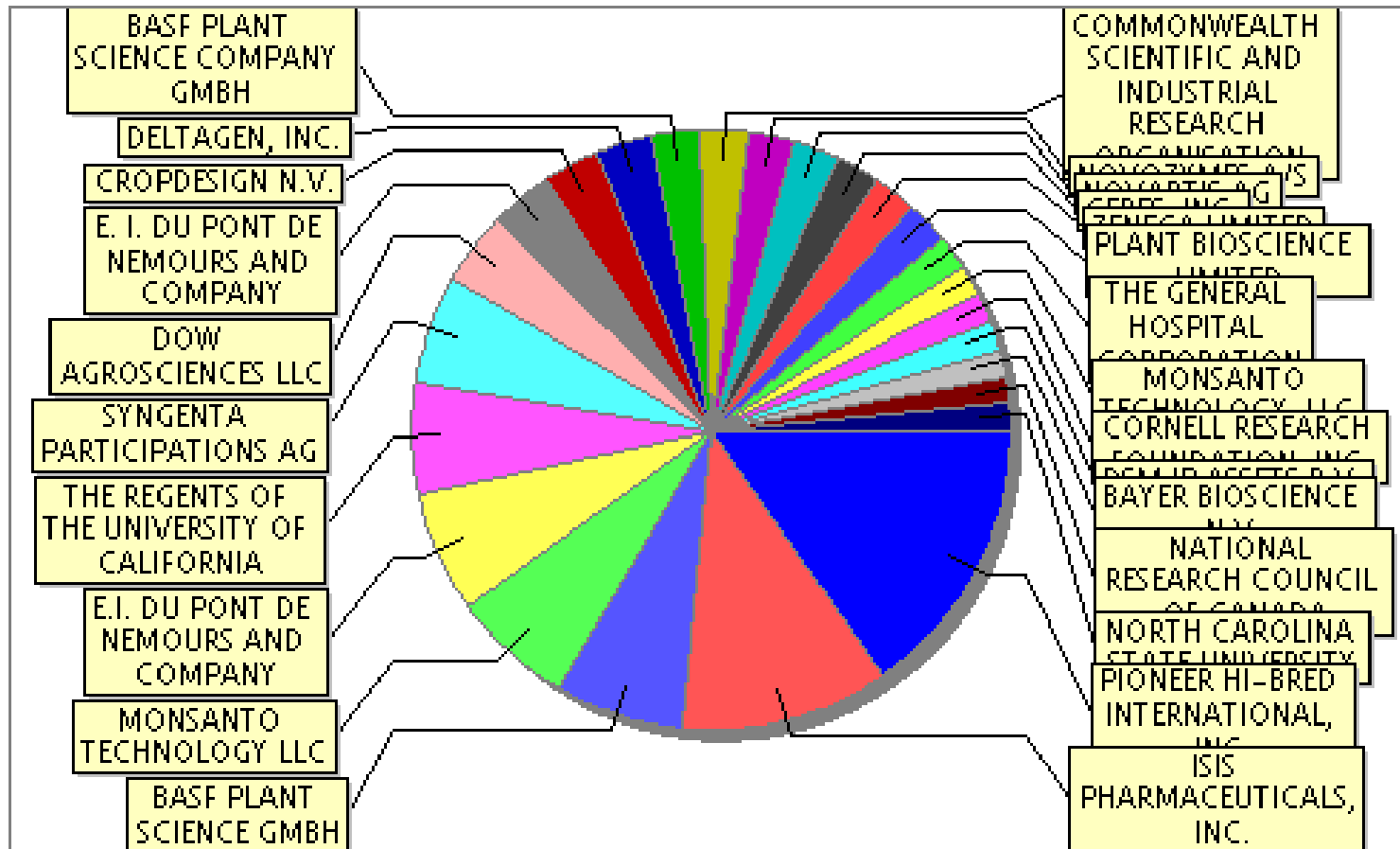
Options Table Graph Options bar pie

Countries		Main IPC		Main Applicant		Main Inventor		Pub Date	
Name	No	Name	No	Name	No	Name	No	Date	No
PCT	9861	C12N	4972	PIONEER HI-BRED INTERNATIONAL, INC.	450	MONIA, Brett, P.	71	1988	8
		C07K	1943	ISIS PHARMACEUTICALS, INC.	329	BENNETT, C., Frank	63	1989	27
		A61K	1078	BASF PLANT SCIENCE GMBH	205	ALLEN, Keith, D.	54	1990	52
		A01H	969	MONSANTO TECHNOLOGY LLC	194	ALLEN, Stephen, M.	34	1991	63
		A01N	160	E.I. DU PONT DE NEMOURS AND COMPANY	192	CAHOON, Rebecca, E.	33	1992	75
		C07H	159	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA	175	COWSERT, Lex, M.	30	1993	88
		C12Q	125	SYNGENTA PARTICIPATIONS AG	170	FRANKARD, Valerie	28	1994	123
		C12P	99	DOW AGROSCIENCES LLC	117	SPANGENBERG, German	27	1995	130
		A01K	52	E. I. DU PONT DE NEMOURS AND COMPANY	98	FROHBERG, Claus	24	1996	186
		A23K	52	CROPDDESIGN N.V.	91	HATZFELD, Wes	22	1997	203
		G01N	25			LIGHTNER,	22	1998	307
		A23D	22					1999	420

Results: Analysis (applicant)



Results: Analysis (applicant)



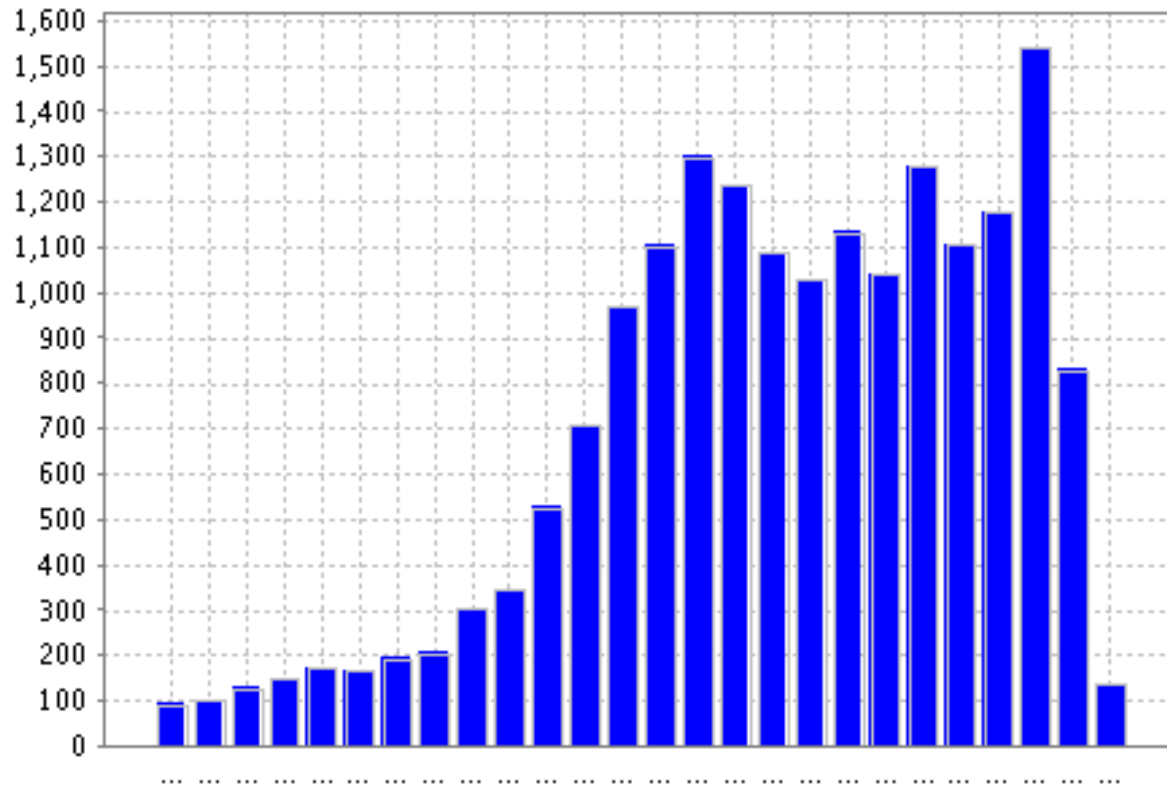
Analysis: Findings

- Top applicants include a number of well-known companies in the agriculture and agrochemicals industries but also a number of universities and public research institutions.

Results: Analysis

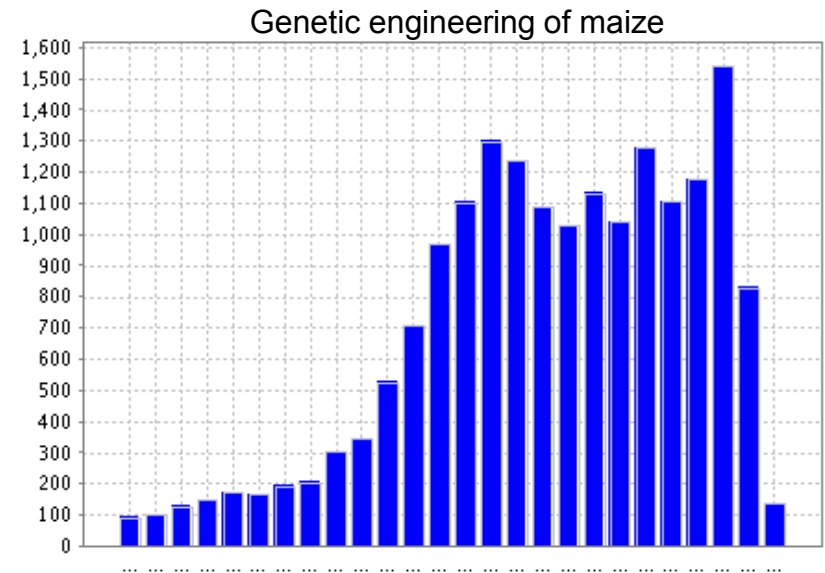
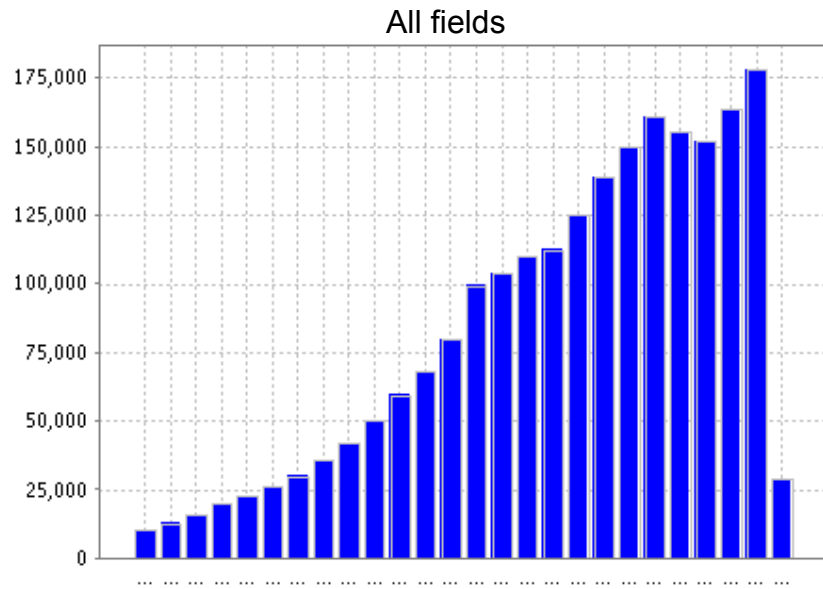
Analysis									
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Countries		Main IPC		Main Applicant		Main Inventor		Pub Date	
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PCT	9861	C12N	4972	PIONEER HI-BRED INTERNATIONAL, INC.	450	MONIA, Brett, P.	71	1988	8
		C07K	1943	ISIS PHARMACEUTICALS, INC.	329	BENNETT, C., Frank	63	1989	27
		A61K	1078	BASF PLANT SCIENCE GMBH	205	ALLEN, Keith, D.	54	1990	52
		A01H	969	MONSANTO TECHNOLOGY LLC	194	ALLEN, Stephen, M.	34	1991	63
		A01N	160	E.I. DU PONT DE NEMOURS AND COMPANY	192	CAHOON, Rebecca, E.	33	1992	75
		C07H	159	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA	175	COWSERT, Lex, M.	30	1993	88
		C12Q	125	SYNGENTA PARTICIPATIONS AG	170	FRANKARD, Valerie	28	1994	123
		C12P	99	DOW AGROSCIENCES LLC	117	SPANGENBERG, German	27	1995	130
		A01K	52	E. I. DU PONT DE NEMOURS AND COMPANY	98	FROHBERG, Claus	24	1996	186
		A23K	52	CROPDESIGN N.V.	91	HATZFELD, Wes	22	1997	203
		G01N	25			LIGHTNER,	22	1998	307
		A23D	22					1999	420

Results: Analysis (publication date)



Pub Date	
Date ↕	No ↕
1988	93
1989	104
1990	129
1991	148
1992	174
1993	166
1994	195
1995	206
1996	304
1997	348
1998	528
1999	709
2000	970
2001	1104

Analysis: Findings



- Exceptionally strong growth in patent filing activity from 1995 onwards, even compared to growth in overall patent filing activity
- Slowdown in growth from 2002 onwards

Novelty/patentability search (Review)

Question

- Is a given invention (claimed in a patent application) patentable?

Uses

- Decide whether to proceed with a patent application.
- Determine how to draft or amend claims to help ensure that they are accepted into the granted patent.

Patentability

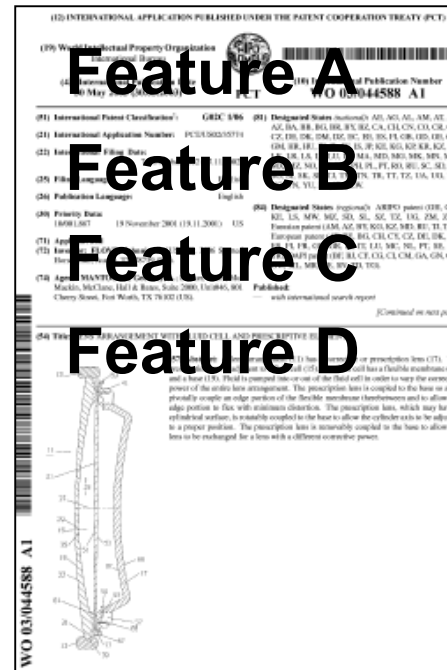
- Patentable subject matter
- Patentability criteria
 - Novelty
 - Inventive step/non-obviousness
 - Industrial applicability/utility

Novelty

Invention

- Feature A
- Feature B
- Feature C
- Feature D

Prior art

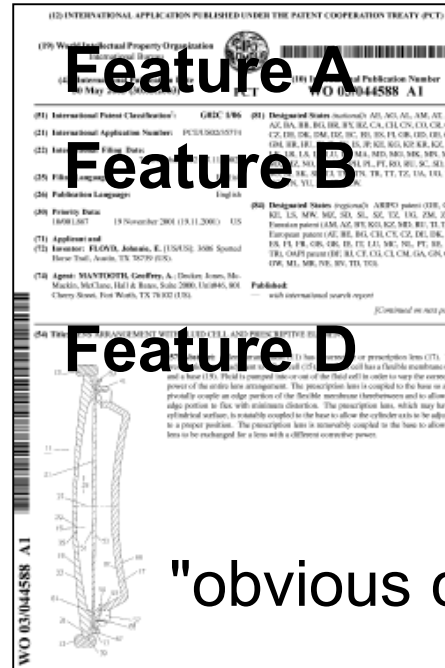


Inventive step/non-obviousness

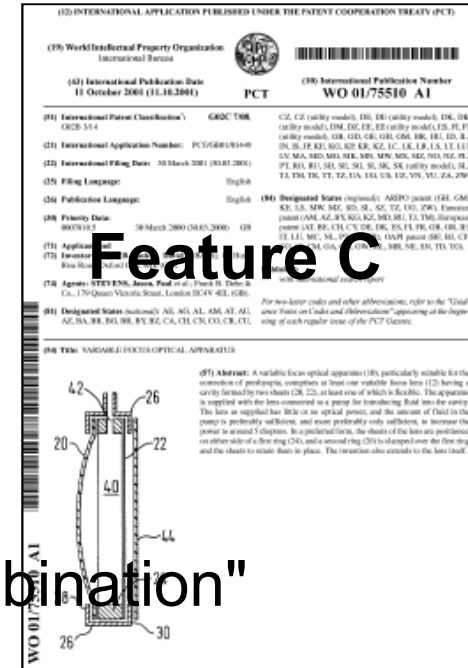
Invention

- Feature A
- Feature B
- Feature C
- Feature D

Prior art



"obvious combination"

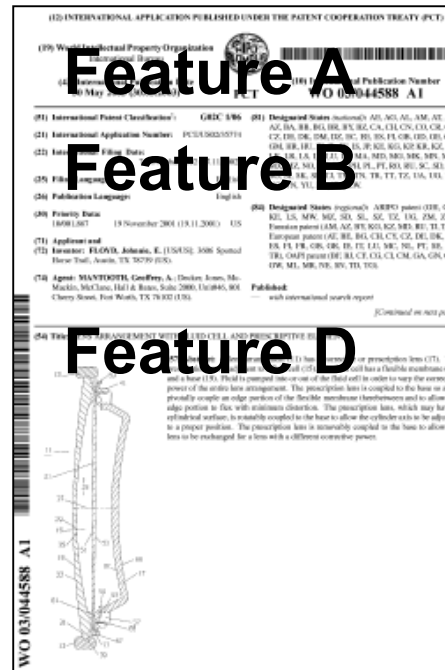


Inventive step/non-obviousness

Invention

- Feature A
- Feature B
- Feature C
- Feature D

Prior art



Feature C obvious

Freedom-to-operate search (Review)

Question

- Do patent rights exist that a given technology (product or process) risks infringing?

Uses

- Guide product design decisions.
- Identify patents that may need to be licensed.

Question

- Which part of a patent defines the scope of protection granted?

- (a) Title
- (b) Abstract
- (c) Description
- (d) Claims
- (e) All of the above

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H01M 4/58 (2010.01) H01M 4/02 (2006.01)
H01M 4/58 (2006.01)

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(21) International Application Number:
PCT/US2011/030989

(22) International Filing Date:
1 April 2011 (01.04.2011)

(25) Filing Language:
English

(26) Publication Language:
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(30) Priority Data:
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61/373,732 13 August 2010 (13.08.2010) US
61/378,317 30 August 2010 (30.08.2010) US
12/973,779 20 December 2010 (20.12.2010) US

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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, JP, KE, KG, KM, KN, KP,
KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD,
SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR,
TT, TZ, UA, UG, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG,
ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ,
TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU,
LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,
SM, TR), OAPI (BF, BI, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: HIGH RATE SEAWATER ACTIVATED LITHIUM BATTERY CELLS BI-POLAR PROTECTED ELECTRODES
AND MULTI-CELL STACKS

(57) Abstract: Water activated alkali metal battery cells, protected anode bi-polar electrodes and multi-cell stacks are configurable to achieve very high energy density. The cells, bi-polar electrode and multi-cell stacks include a protected anode and a cathode having a solid phase electro-active component material that is reduced during cell discharge.

Figure 1B

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Question

Which part of a patent defines the scope of protection granted?

- (a) Title
- (b) Abstract
- (c) Description
- (d) Claims**
- (e) All of the above

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
10 November 2011 (10.11.2011)

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(71) Applicant (for all designated States except US): **POLY-PLUS BATTERY COMPANY** [US/US]; 2451 Fifth Street, Suite B, Berkeley, California 94710 (US).

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(74) Agents: **AUSTIN, James E. et al.**; WEAVER AUSTIN VILLENEUVE & SAMPSON LLP, P.O. Box 70250, Oakland, California 94612-0250 (US).

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(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BI, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: HIGH RATE SEAWATER ACTIVATED LITHIUM BATTERY CELLS BI-POLAR PROTECTED ELECTRODES AND MULTI-CELL STACKS

(57) Abstract: Water activated alkali metal battery cells, protected anode bi-polar electrodes and multi-cell stacks are configurable to achieve very high energy density. The cells, bi-polar electrode and multi-cell stacks include a protective anode and a cathode having a solid phase electro-active component material that is reduced during cell discharge.

Figure 1B

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Claims

- Claims (largely) define the scope of protection offered by a patent

→ Focus on claims in the analysis of your search results

Question



Photo source: Krzysztof Woźnica (Wikimedia)

- A company would like to manufacture and sell a product in Mexico that can be described as "a lithium battery using a crystalline ceramic membrane".
- A patent is in force in Mexico that claims "a lithium battery using a crystalline ceramic membrane".

Question

Product/Feature	Claims
a lithium battery using a porous ceramic membrane	a lithium battery using a porous ceramic membrane

- Would the company infringe this patent if it manufactures and sells its product?
→ Yes, the product matches the claims.

Question

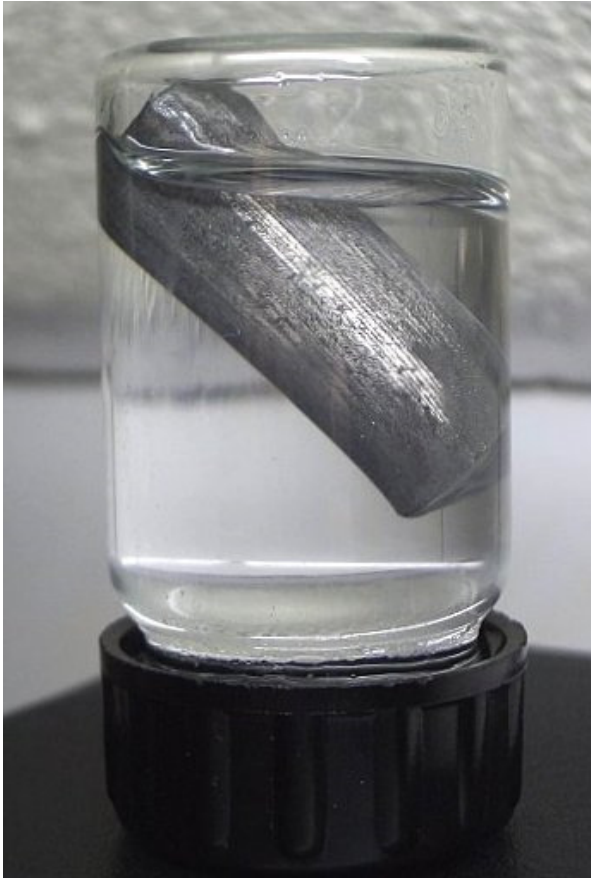


Photo source: W. Oelen (Wikimedia)

- A company would like to manufacture and sell a product in Mexico that can be described as "a lithium battery using a crystalline ceramic membrane".
- A patent is in force in Mexico that claims "an alkali metal battery using a crystalline inorganic membrane".

Question

Product/Feature	Claims
a lithium battery using a porous ceramic membrane	an alkali metal battery using a porous inorganic membrane

- Would the company infringe this patent if it manufactures and sells its product?
 - Yes, the product is encompassed by the claims

Summary

Features of technology	Features of third-party patent	Analysis	Result
A + B	A + B	Identical features	Infringement
A + B + C	A + B	Encompassed features	Infringement
A + C	A + B	Different features	No infringement
A + B'	A + B B ~ B'	Equivalent features	Infringement (doctrine of equivalents)

Adapted from: Gerhard Fischer, "Freedom-to-Operate search: Issues and practical exercises"

Claims

- A patent may be infringed if features of a technology match or are encompassed by its claims
- Take into account synonyms and other ways of expressing your features (e.g. classification)
- Include more general features that would encompass the specific features of your technology in your search

Further FTO Considerations

Documents

- Patents
- Patent applications?

Countries and regions

- National patent
- Regional patents, e.g. European Patent Office
- PCT?

Dates

- Filing date (20 years plus 5 years safety margin)?

And don't forget!

- A product consists of many elements that may be protected by different intellectual property rights (and other legal rights), not only patents.
 - marks (e.g. distinctive markings or coloring)
 - industrial designs (e.g. decorative elements)
 - copyright (e.g. user manual)

Any questions?

For more information, please contact:

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