Intellectual Property Officer
Intellectual Property Office, Science Park, PSU

What is a patent?


The United States of America

The Director of the United States Patent and Trademark Office

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America, and if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States of America, or importing into the United States of America, products made by that process, for the term set forth in 35 U.S.C. 154(a)(2) or (c)(1), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b). See the Maintenance Fee Notice on the inside of the cover.

Margaret A. Focarino

Commissioner for Patents of the United States Patent and Trademark Office

A patent is an **exclusive right** granted for an invention. In other words, a patent is an exclusive right to a product or a process that generally provides a new way of doing something, or offers a new technical solution to a problem. To get a patent, technical information about the invention must be disclosed to the public in a patent application.

Patent rights?

The patent owner may give permission to, or license, other parties to use the invention on mutually agreed terms. The owner may also sell the right to the invention to someone else, who will then become the new owner of the patent. Once a patent expires, the protection ends, and an invention enters the public domain; that is, anyone can commercially exploit the invention without infringing the patent.

Why conduct patent search?

1. Patentability/ Prior Art Search

Patent

- Novelty
- Inventive step
- Industrial applicability

20 years from the date of filing the application

Petty Patent

- Novelty
- Industrial applicability

6 years from the date of filing and may be renewed for 2-year term for a total duration of 10 years protection

Why conduct patent search?

1. Patentability/ Prior Art Search

Patent A

Is apply patent?

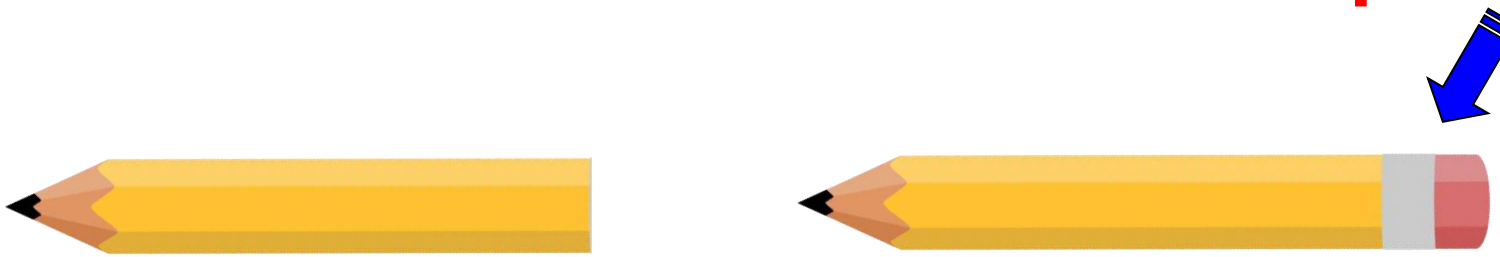
Your Invention

How long should you search for patentability?

Why conduct patent search?

1. Patentability/ Prior Art Search

Is apply patent?



Prior Art

Your Invention

How long should you search for patentability?

Why conduct patent search?

1. Patentability/ Prior Art Search

A + B

Prior Art

A + B + C

Your Invention

How long should you search for patentability?

Why conduct patent search?

1. Patentability/ Prior Art Search

A + B +C

Prior Art

A + B

Your Invention

How long should you search for patentability?

Why conduct patent search?

1. Patentability/ Prior Art Search

- ✓ Filing Date
- ✓ Abstract
- ✓ Detailed Description of Invention
- ✓ Claims
- ✓ Summary of the Invention

Why conduct patent search?

2. Freedom to Operate Search

Patent A

Your Invention

How long should you search for FTO?

Why conduct patent search?

2. Freedom to Operate Search

- ✓Territorial or Country
- ✓Legal Status
- ✓Claims

Patentability vs. Freedom to Operate

Patent A

Your Invention

Patentability?

Freedom to Operate?

Why conduct patent search?

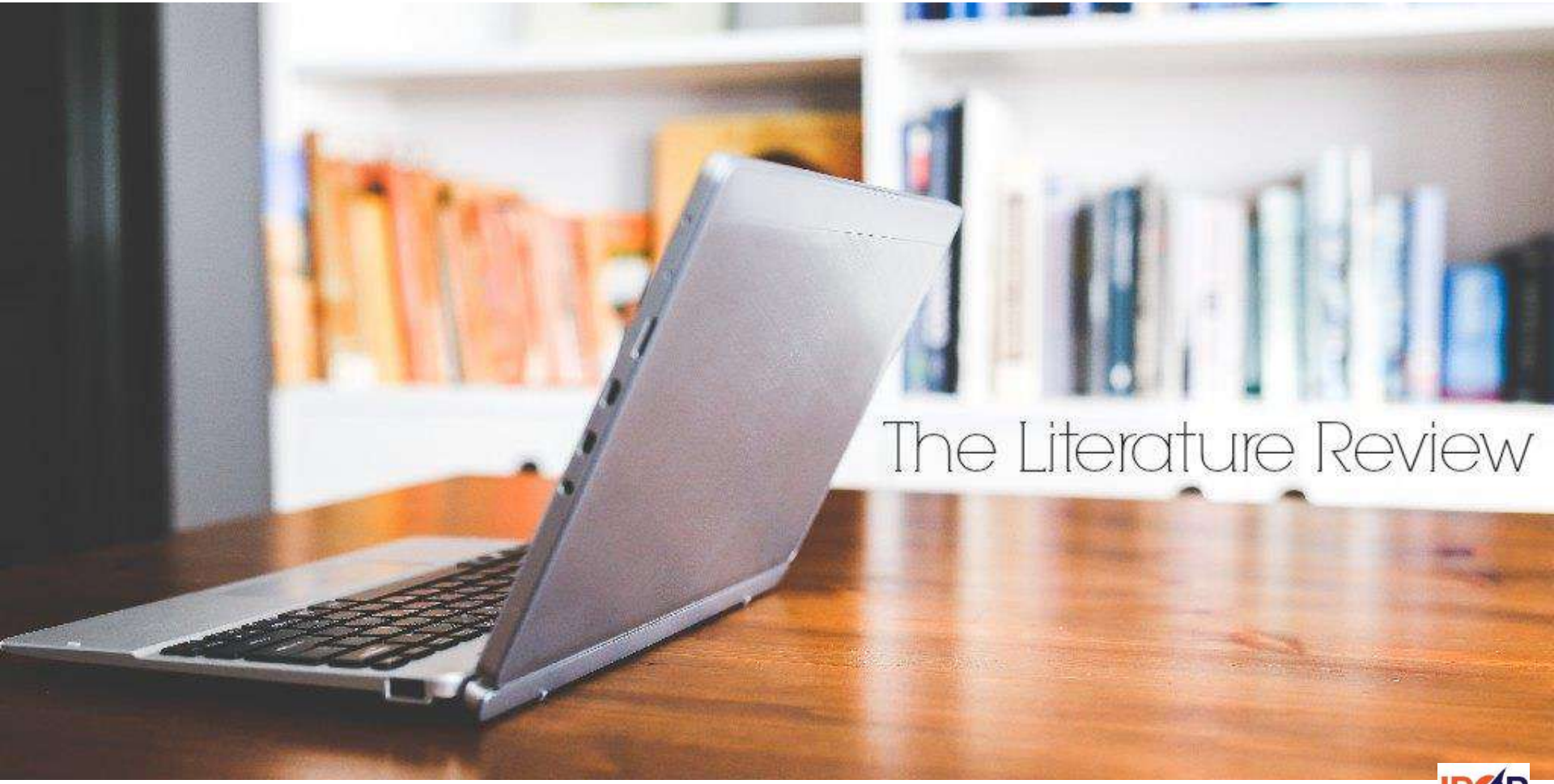
3. Forfeiture or Revocation of Patents

Why conduct patent search?

4. Solution problems or improvement process and product

Why conduct patent search?

5. New Project



Why conduct patent search?

6. Evaluate the development of a competitor

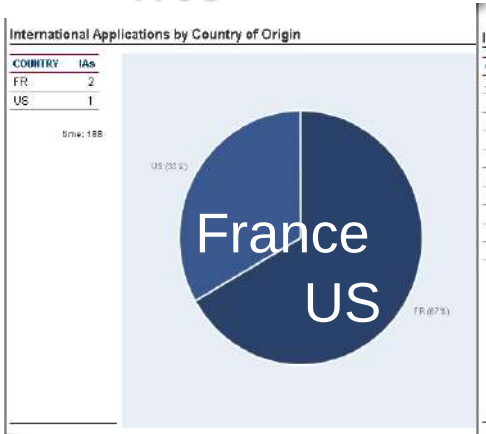
http://mobilesiri.com/apple-vs-samsung-who-will-rule-in-2016/

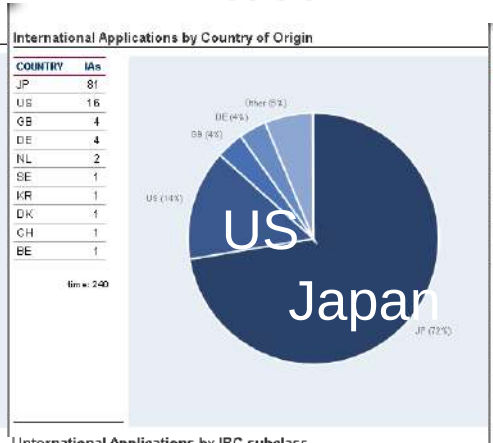
Why conduct patent search?

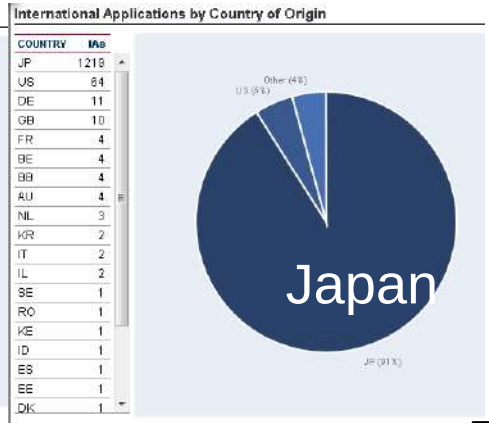
7. Patent Landscape

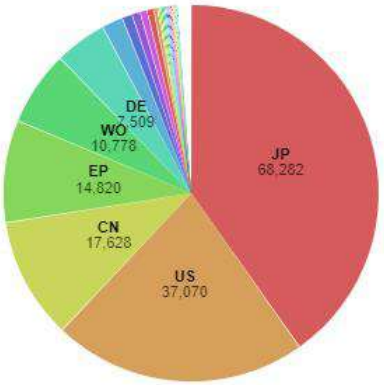
International Filing History & Technology Roadmap of Toyota Company

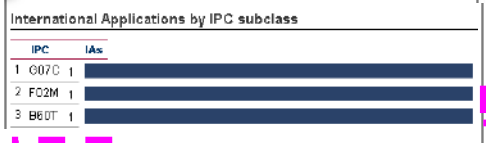
1980 | 1999 | 2009 | 2020











F02D

CONTROLLING COMBUSTION ENGINES

H01M

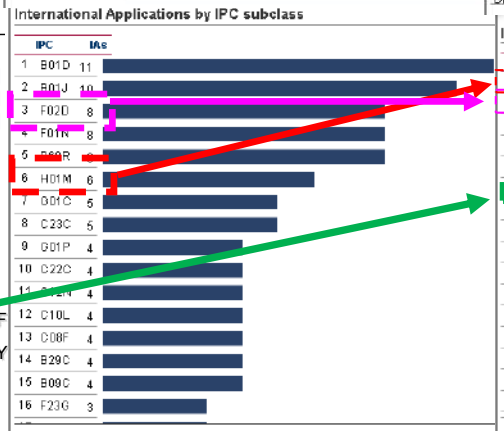
PROCESSES OR MEANS, e.g.

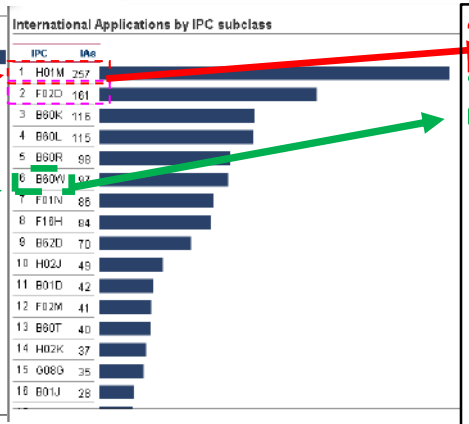
BATTERIES, FOR THE DIRECT CONVERSION OF

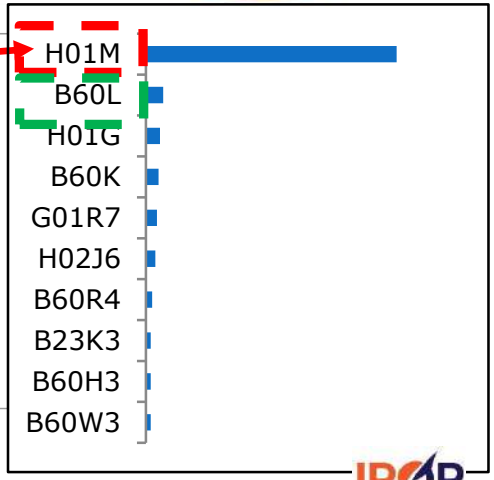
CHEMICAL ENERGY INTO ELECTRICAL ENERGY

B60W

CONJOINT CONTROL OF VEHICLE SUB-UNITS OF DIFFERENT TYPE OR DIFFERENT FUNCTION; CONTROL SYSTEMS SPECIALLY ADAPTED FOR HYBRID VEHICLES; ROAD VEHICLE DRIVE CONTROL SYSTEMS FOR PURPOSES NOT RELATED TO THE CONTROL OF A PARTICULAR SUB-UNIT [2006.01]

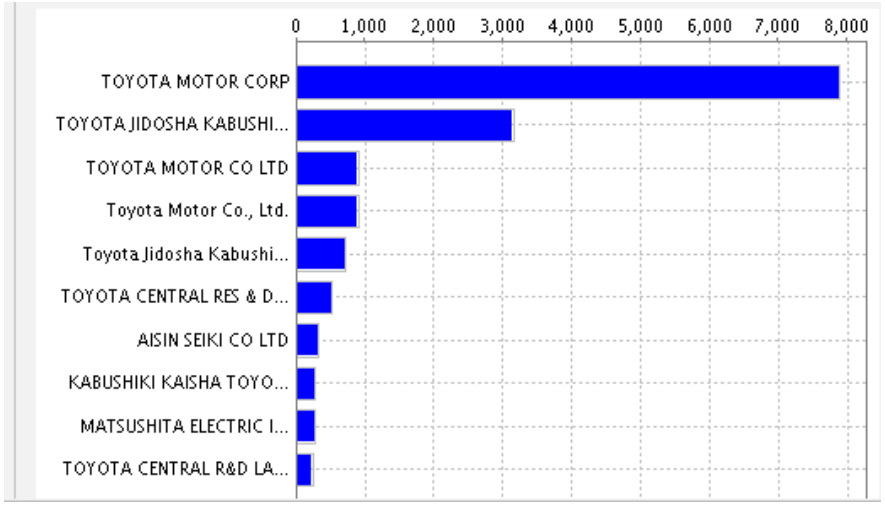


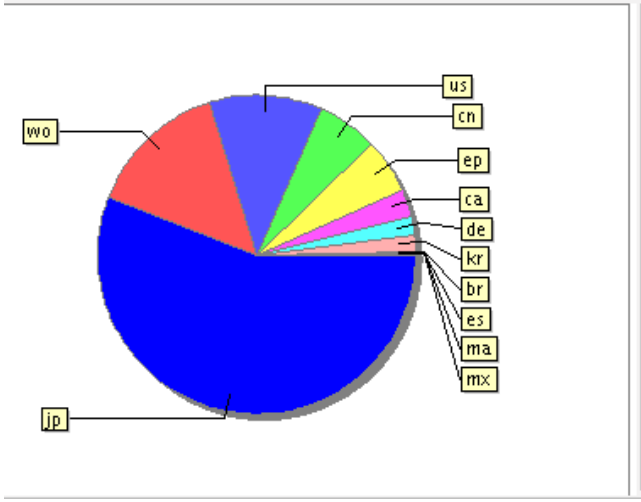




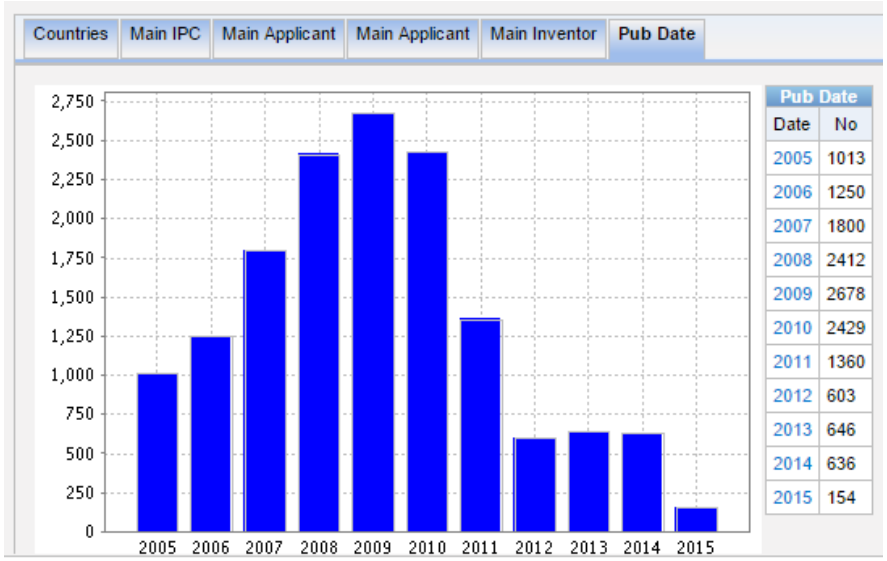
Why conduct patent search?

7. Patent Landscape





Countries	
Name	No
Japan	9936
PCT	2560
United States	2029
China	1084
European Patent Office	990
Canada	500
Germany	347
Republic of Korea	309
Brazil	22
Spain	8
Morocco	1
Mexico	1



Pub Date	
Date	No
2005	1013
2006	1250
2007	1800
2008	2412
2009	2678
2010	2429
2011	1360
2012	603
2013	646
2014	636
2015	154

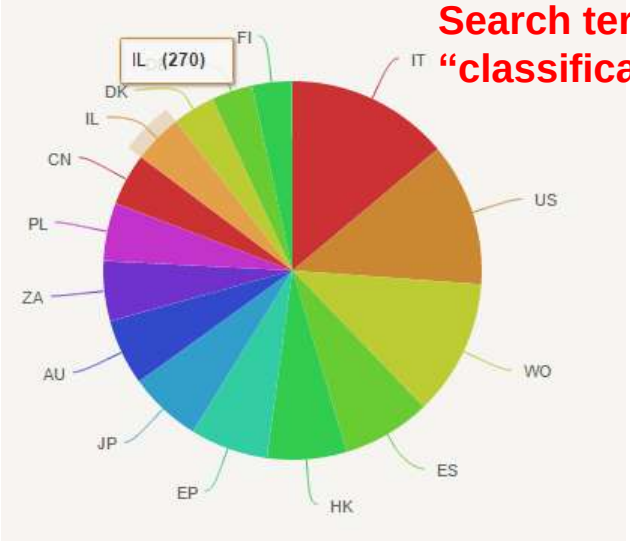
Results: 17,787
Search Criteria:
(PA:(Toyota Mo*) OR (Toyota Re*) OR (Toyota C*) OR (Toyota)) AND IC:H01M

Is Toyota really a world leader in electric car bat

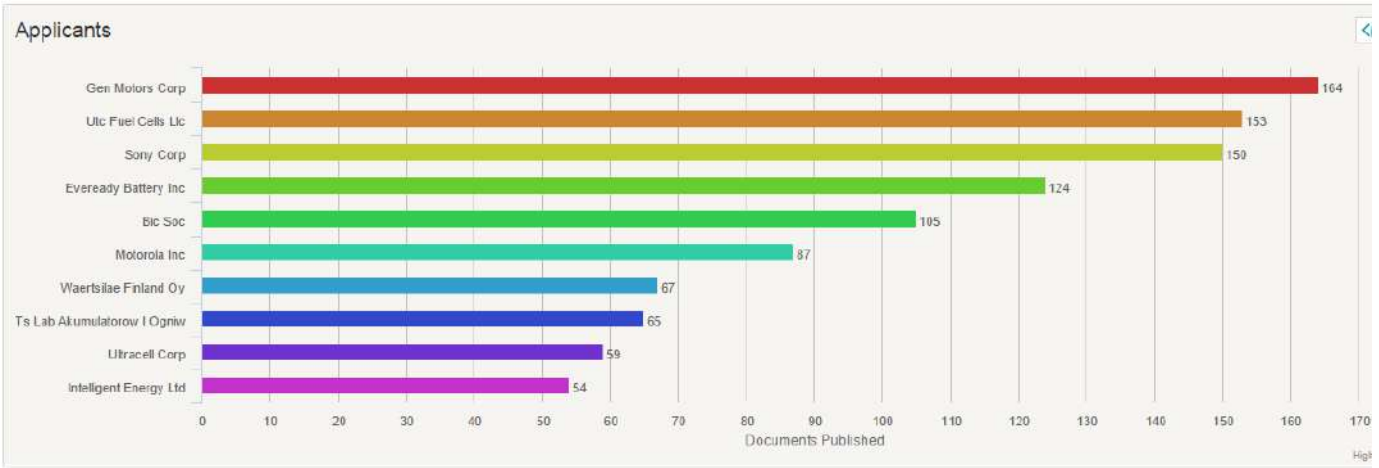
If not, who is?

Why conduct patent search?

7. Patent Landscape



Search term
“classification_ipcr:H01M”



GM

UTC Power
A United Technologies Company

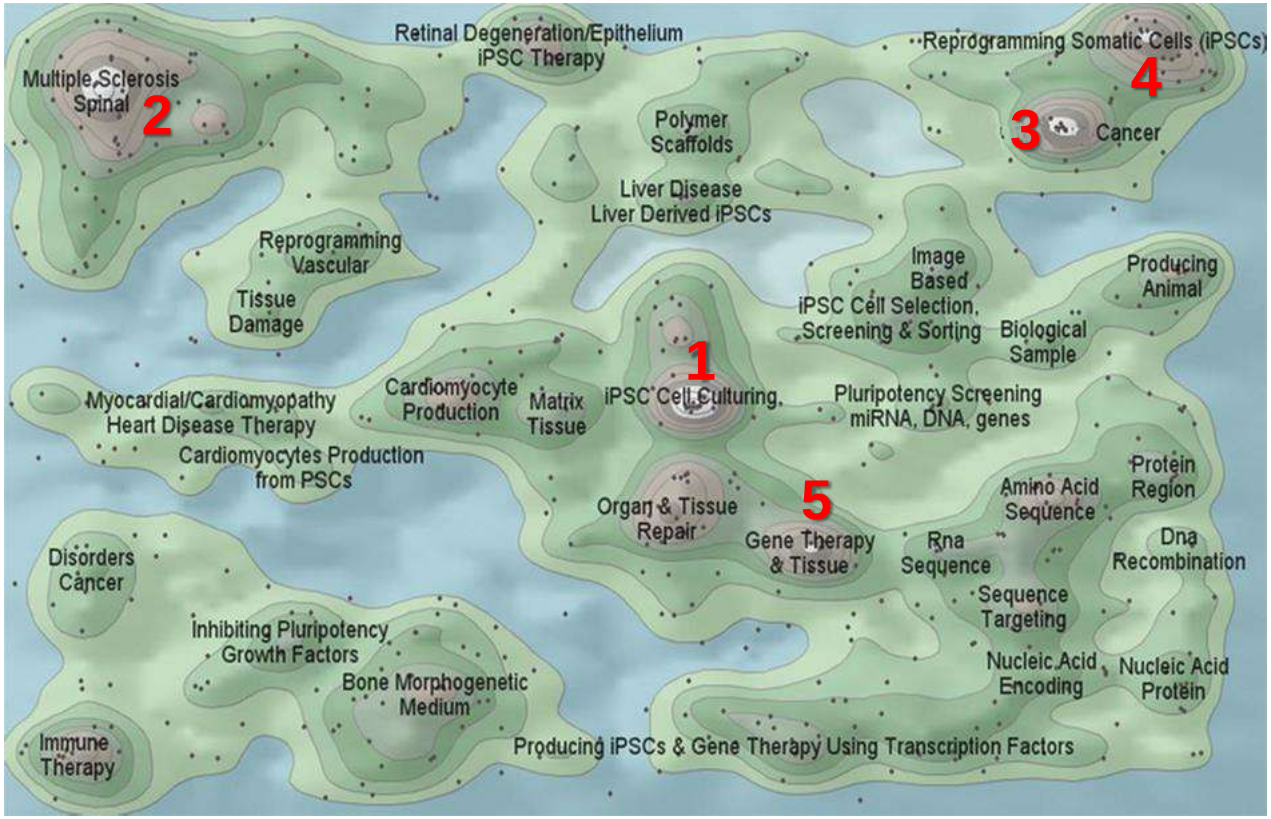
Sony Corporation

EVEREADY

MOTOROLA

Patent lens

The Global IP Landscape of Induced Pluripotent Stem Cell Technologies



Source: MacKenna Roberts, Ivan B Wall, Ian Bingham, Dominic Icely, Brock Reeve, Kim Bure, Anna French& David A Brindley Nature Biotechnology 32, 742–748 (2014)

Areas of high patent activity:

1. Cell culture (including cell selection and characterization techniques)
2. Spinal injury
3. Cancer (involving cancer cells, inhibiting teratoma formation or research intended as a therapeutic indication toward cancer)
4. Reprogramming methodologies
5. Gene therapy or tissue engineering

Initial raw data set of 1,388 patent families with 4,651 total documents comprises both granted and pending applications from 1 September 2006 to 31 December 2013.

Why conduct patent search?

7. Patent Landscape

Worldwide Patent Landscape of Graphene

Table 1: Summary of worldwide patent dataset for graphene

Number of patent families	13,355		
Number of patent publications	25,855		
Publication year range	2005-2014		
Peak publication year	2014		
Top applicant	Samsung (Korea)		
Field choices	**Field name**	**Number of entries**	**Coverage**
People	Inventors	23,284	99%
Applicants	Patent assignees	5184	99%
Countries	Priority countries	43	100%
Technology	IPC sub-group	7095	99%

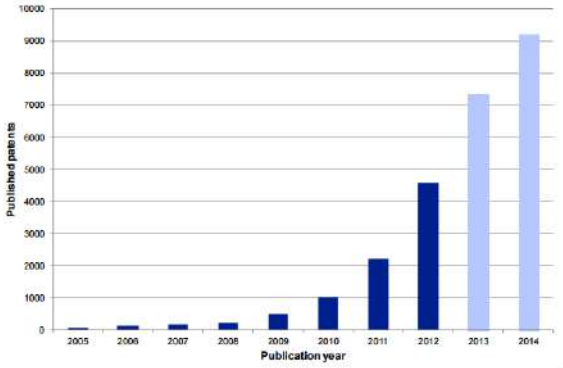


Figure 1: Patent publications by publication year

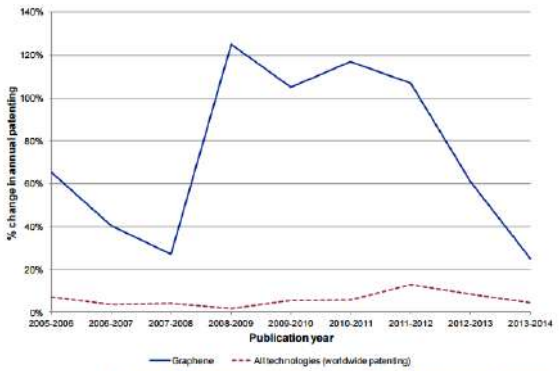


Figure 3: Year-on-year change in graphene patenting compared to worldwide patenting across all technologies

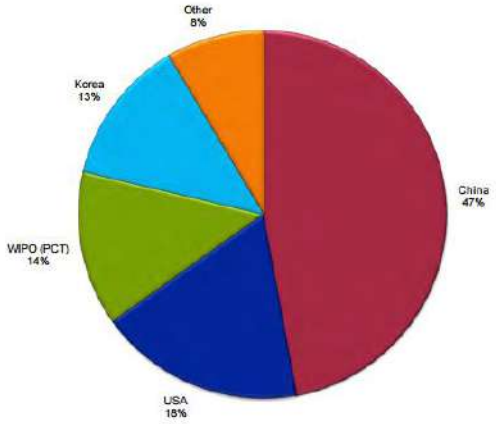
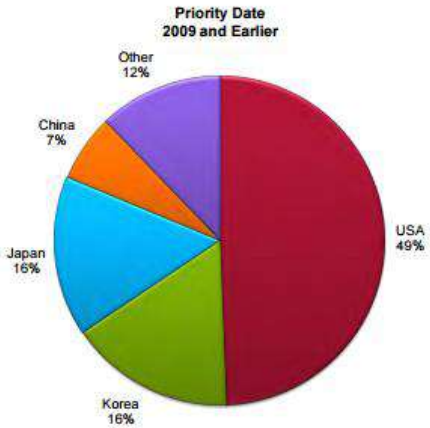


Figure 4: Priority country distribution



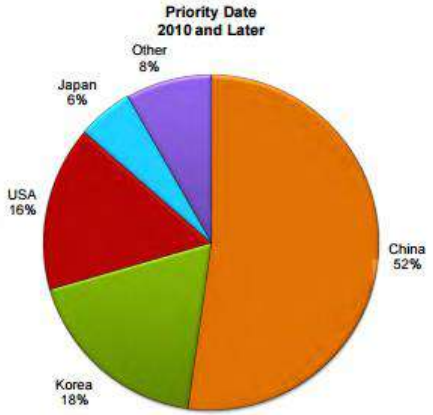


Figure 5: Priority country distribution over time

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/470918/Graphene_-_the_worldwide_patent_landscape_in_2015.pdf

Why conduct patent search?

7. Patent Landscape

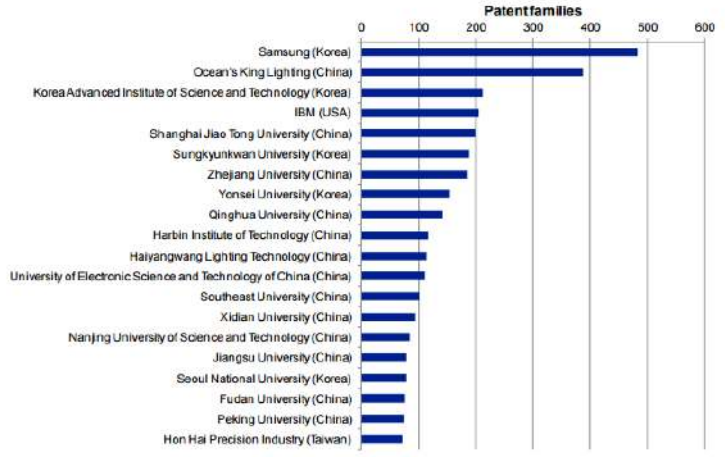


Figure 8: Top applicants

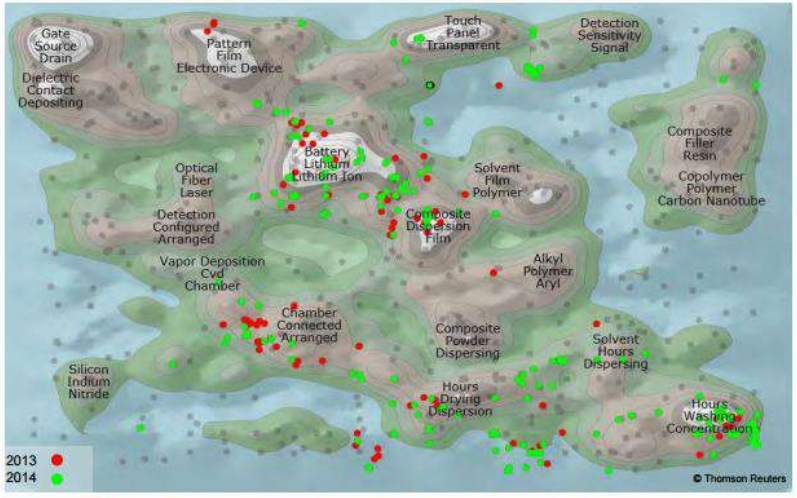


Figure 12: Graphene patent landscape map highlighting Ocean's King Lighting patents published in 2013 and 2014

Worldwide Patent Landscape of Graphene

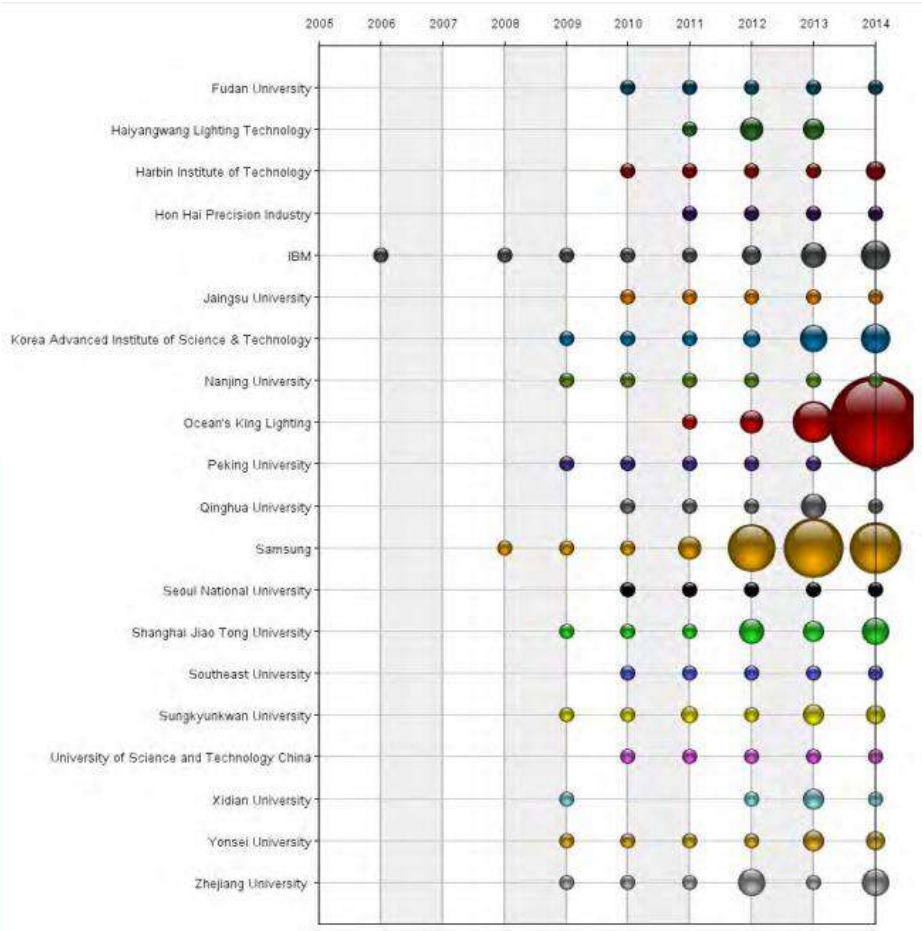
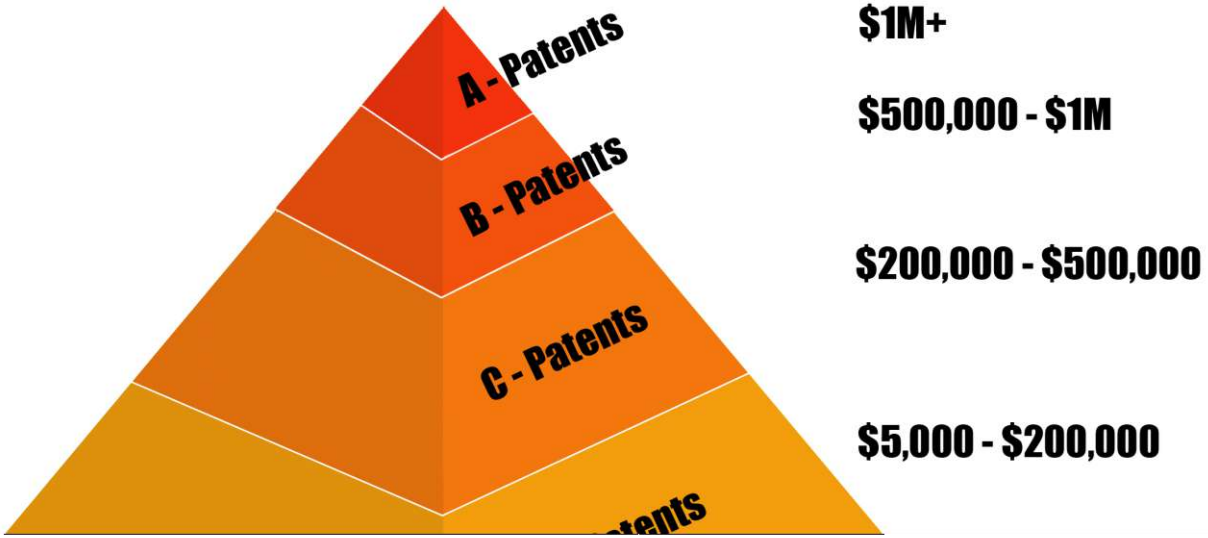


Figure 9: Applicant timeline of patent families by publication year

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/470918/Graphene_-_the_worldwide_patent_l... 015.

Why conduct patent search?

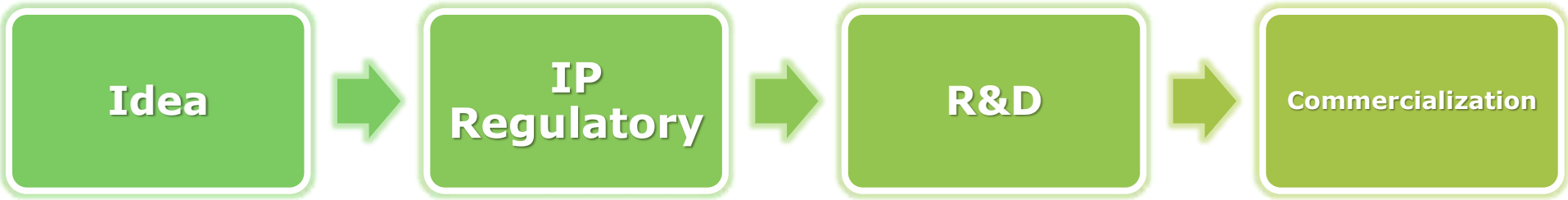
8. Patent Valuation



When to conduct patent search?

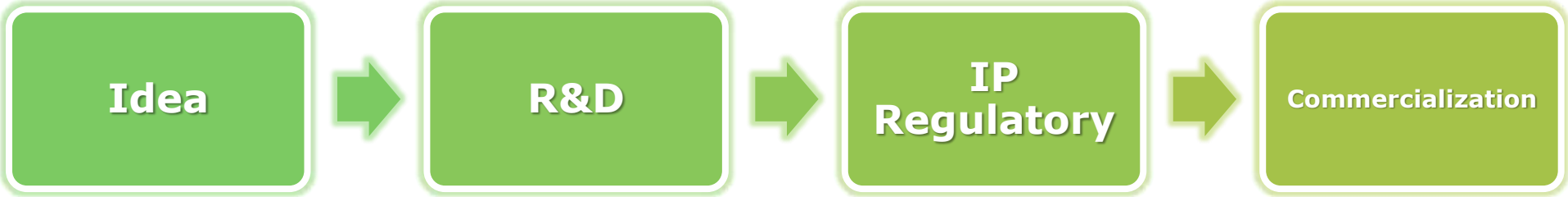
Private Sector

FTO, Patentability



Territory, Patentability
Protection period

University, Public Research Institute

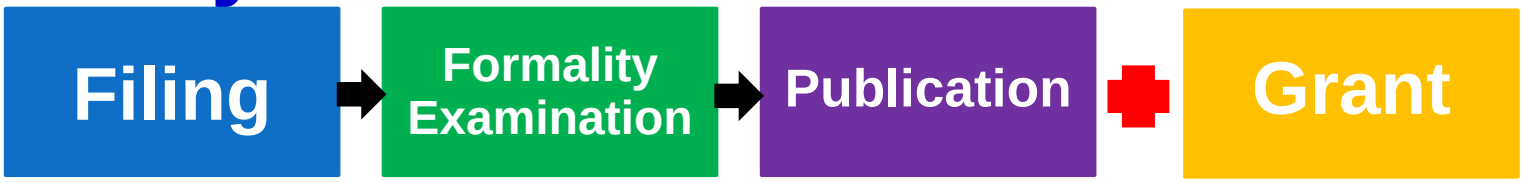


Re-design

The Patent Process

Patent

Petty Patent



Design Patent

Thailand Granted Patent

เลขที่สิทธิบัตร 18985

สป/200 - ข

สิทธิบัตรการประดิษฐ์

อาศัยอำนาจตามความในพระราชบัญญัติสิทธิบัตร พ.ศ. 2522
อธิบดีกรมทรัพย์สินทางปัญญาออกสิทธิบัตรฉบับนี้ให้แก่

นายพีระพันธุ์ วิจิตรพันธุ์

สำหรับการประดิษฐ์ตามรายละเอียดการประดิษฐ์ ข้อถือสิทธิ และรูปเขียน (ถ้ามี)
ปรากฏในสิทธิบัตรนี้

เลขที่คำขอ	079495
วันขอรับสิทธิบัตร	20 มกราคม 2546
ผู้ประดิษฐ์	นายพีระพันธุ์ วิจิตรพันธุ์
ชื่อที่แสดงถึงการประดิษฐ์	กรรมวิธีการกระตุ้นให้สร้างสาร Aquilaria resin โดยการสร้างลักษณะรอยแผลบนต้นกฤษณา (Aquilaria)

ให้ผู้ทรง สิทธิและหน้าที่ตามกฎหมายว่าด้วยสิทธิบัตรทุกประการ

ออกให้ 21 เดือน กันยายน พ.ศ. 2548

หมดอายุ 19 เดือน มกราคม พ.ศ. 2566

(ลงชื่อ) .....

(นายคณิสสร นาวานุเคราะห์)

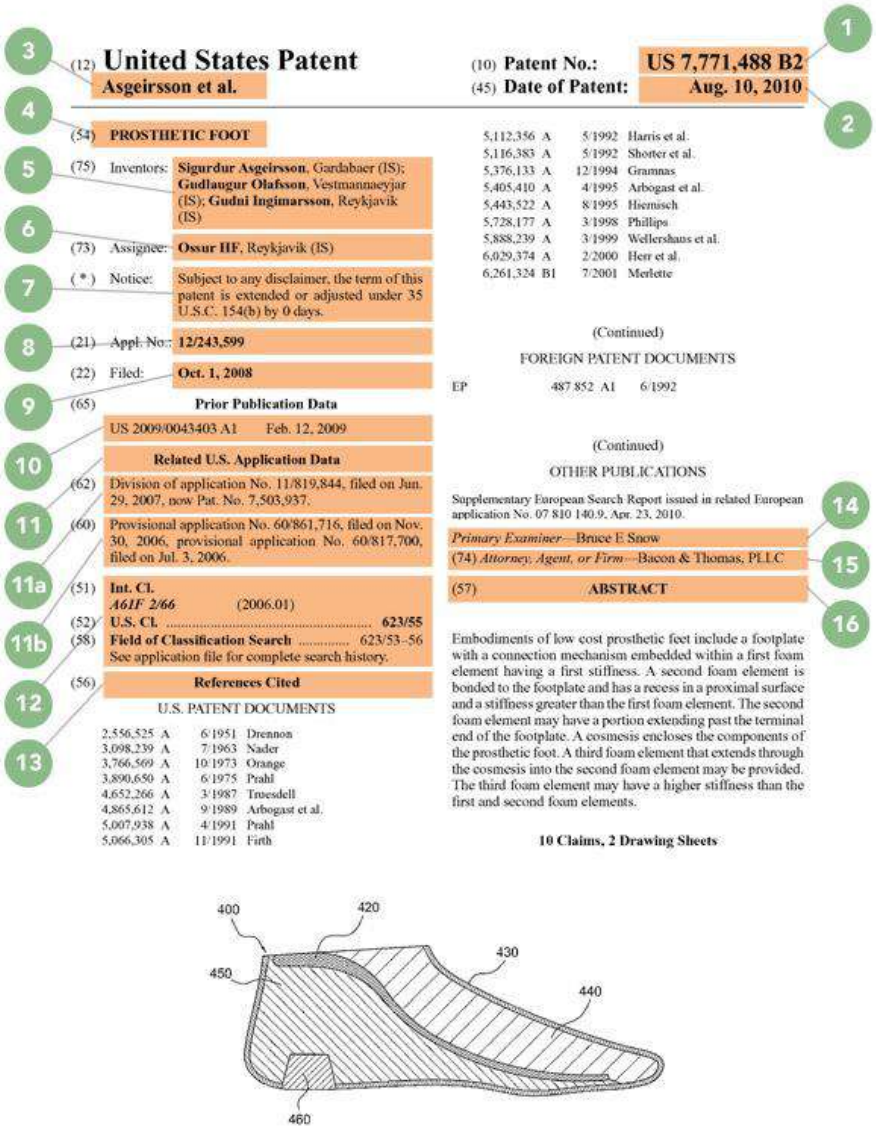
อธิบดีกรมทรัพย์สินทางปัญญา

ผู้ออกสิทธิบัตร

พนักงานเจ้าหน้าที่

หมายเหตุ 1. ผู้ทรงสิทธิบัตรต้องชำระค่าธรรมเนียมรายปีเริ่มแต่ปีที่ 5 ของอายุสิทธิบัตร มิฉะนั้น สิทธิบัตรจะสิ้นอายุ
2. ผู้ทรงสิทธิบัตรจะขอชำระค่าธรรมเนียมรายปีล่วงหน้าโดยชำระทั้งหมดในคราวเดียวก็ได้
3. การอนุญาตให้ใช้สิทธิตามสิทธิบัตรและการโอนสิทธิบัตรต้องทำเป็นหนังสือและจดทะเบียนต่อพนักงานเจ้าหน้าที่

Patent Anatomy



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

(10) **Patent No.: US 7,771,488 B2**
(45) **Date of Patent: Aug. 10, 2010**

(54) **PROSTHETIC FOOT**

(75) Inventors: **Sigurdur Asgeirsson**, Gardabaer (IS); **Gudlaugur Olafsson**, Vestmannaeyjar (IS); **Gudni Ingimarsson**, Reykjavik (IS)

(73) Assignee: **Ossur HF**, Reykjavik (IS)

(*) 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.: **12/243,599**

(22) Filed: **Oct. 1, 2008**

(65) **Prior Publication Data**

US 2009/0043403 A1 Feb. 12, 2009

Related U.S. Application Data

(62) Division of application No. 11/819,844, filed on Jun. 29, 2007, now Pat. No. 7,503,937.

(60) Provisional application No. 60/861,716, filed on Nov. 30, 2006, provisional application No. 60/817,700, filed on Jul. 3, 2006.

(51) **Int. Cl.**
A61F 2/66 (2006.01)

(52) **U.S. Cl.** **623/55**

(58) **Field of Classification Search** 623/53–56
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

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3,098,239	A	7/1963	Nader
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5,007,938	A	4/1991	Prahl
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6,261,324	B1	7/2001	Merlette

(Continued)

FOREIGN PATENT DOCUMENTS

EP 487 852 A1 6/1992

(Continued)

OTHER PUBLICATIONS

Supplementary European Search Report issued in related European application No. 07 810 140.9, Apr. 23, 2010.

Primary Examiner—Bruce E Snow
(74) *Attorney, Agent, or Firm*—Bacon & Thomas, PLLC

(57) **ABSTRACT**

Embodiments of low cost prosthetic feet include a footplate with a connection mechanism embedded within a first foam element having a first stiffness. A second foam element is bonded to the footplate and has a recess in a proximal surface and a stiffness greater than the first foam element. The second foam element may have a portion extending past the terminal end of the footplate. A cosmesis encloses the components of the prosthetic foot. A third foam element that extends through the cosmesis into the second foam element may be provided. The third foam element may have a higher stiffness than the first and second foam elements.

10 Claims, 2 Drawing Sheets

1. Patent Number: The patent number is the number assigned a granted patent on its issue date.

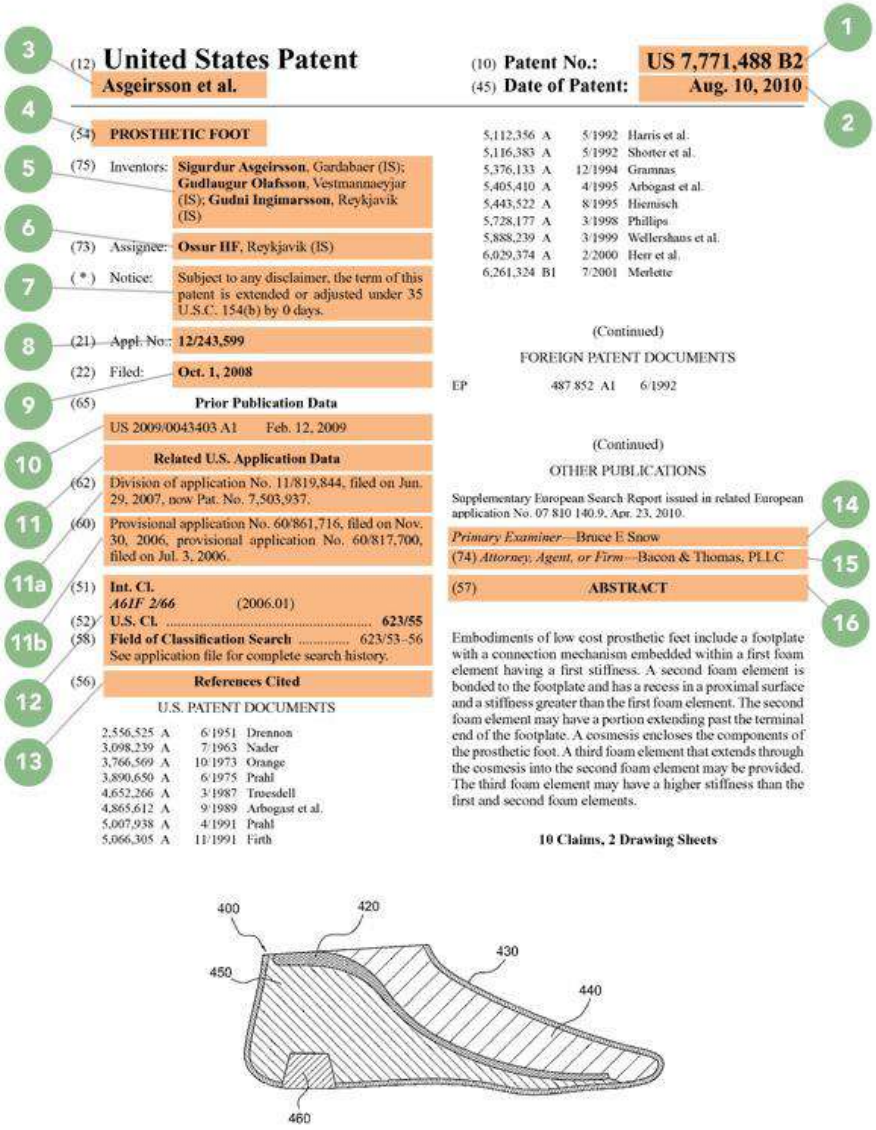
2. Issue Date of Patent: The date that the patent was issued. This date is used to calculate the maintenance fees paid to keep the patent enforceable. For more information on the calculation of the patent term of a patent, please click here.

3. First Named Inventor

4. Patent Title

http://www.baconthomas.com/p_anatomy.html

Patent Anatomy



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

(10) **Patent No.: US 7,771,488 B2**
(45) **Date of Patent: Aug. 10, 2010**

(54) **PROSTHETIC FOOT**

(75) Inventors: **Sigurdur Asgeirsson**, Gardabaer (IS); **Gudlaugur Olafsson**, Vestmannaeyjar (IS); **Gudni Ingimarsson**, Reykjavik (IS)

(73) Assignee: **Ossur HF**, Reykjavik (IS)

(*) 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.: **12/243,599**

(22) Filed: **Oct. 1, 2008**

(65) **Prior Publication Data**

US 2009/0043403 A1 Feb. 12, 2009

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(62) Division of application No. 11/819,844, filed on Jun. 29, 2007, now Pat. No. 7,503,937.

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(51) **Int. Cl.**
A61F 2/66 (2006.01)

(52) **U.S. Cl.** **623/55**

(58) **Field of Classification Search** 623/53–56
See application file for complete search history.

(56) **References Cited**

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Supplementary European Search Report issued in related European application No. 07 810 140.9, Apr. 23, 2010.

Primary Examiner—Bruce E Snow
(74) *Attorney, Agent, or Firm*—Bacon & Thomas, PLLC

(57) **ABSTRACT**

Embodiments of low cost prosthetic feet include a footplate with a connection mechanism embedded within a first foam element having a first stiffness. A second foam element is bonded to the footplate and has a recess in a proximal surface and a stiffness greater than the first foam element. The second foam element may have a portion extending past the terminal end of the footplate. A cosmesis encloses the components of the prosthetic foot. A third foam element that extends through the cosmesis into the second foam element may be provided. The third foam element may have a higher stiffness than the first and second foam elements.

10 Claims, 2 Drawing Sheets

5. Inventor(s): The inventor is the person or person who contributed to at least one of the claims in the patent. A patent application must be filed in the name of the inventors of the invention.

6. Assignee (if applicable): The assignee is the owner of the patent if the ownership has not been retained by the inventor. Ownership rights can also be assigned after a patent is issued and may not be listed on the patent document but may be recorded at the Patent Office.

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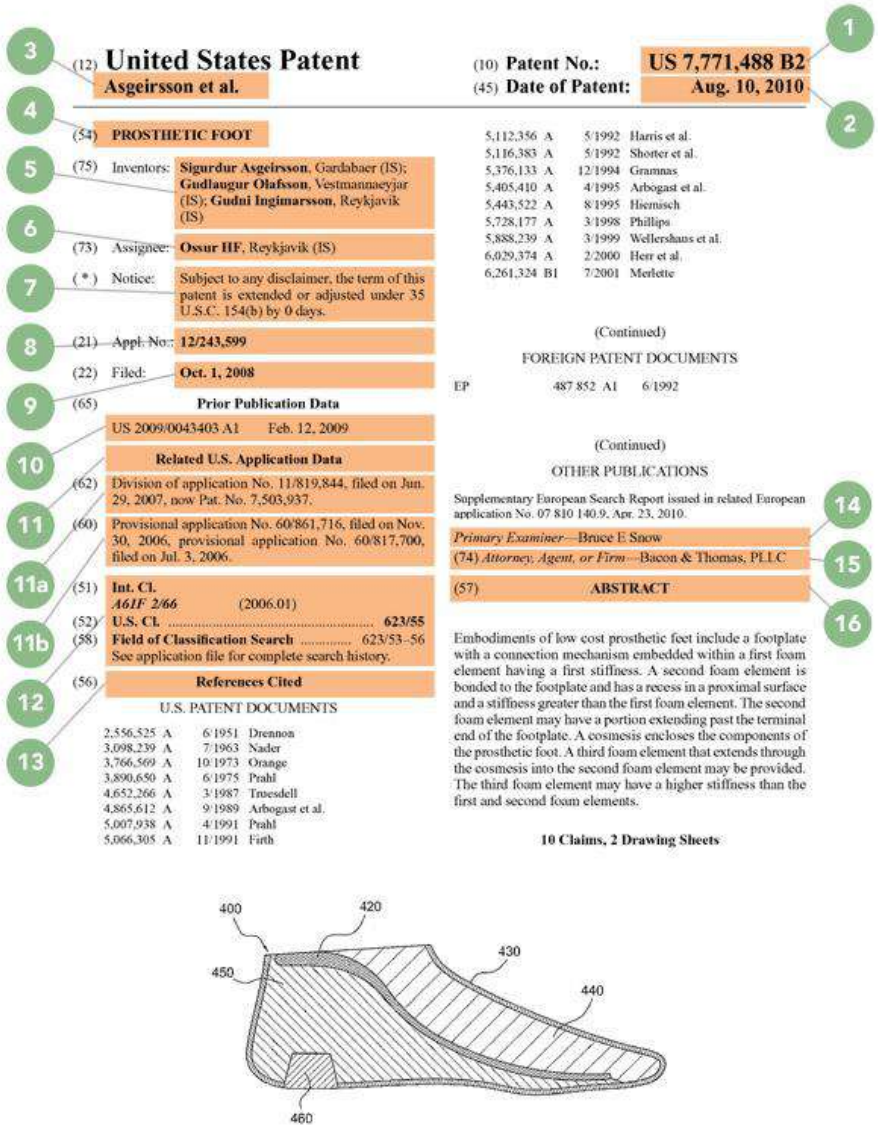
Patent Anatomy



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10 Claims, 2 Drawing Sheets

7. Patent Term Adjustment: If the Patent Office fails to examine a patent application in time (deadlines for various steps are different), the patent term may be extended. Extensions or other delay taken by the applicant can reduce or eliminate the extension. The patent term may also be reduced by any disclaimer (called a "terminal disclaimer") to the patent term.

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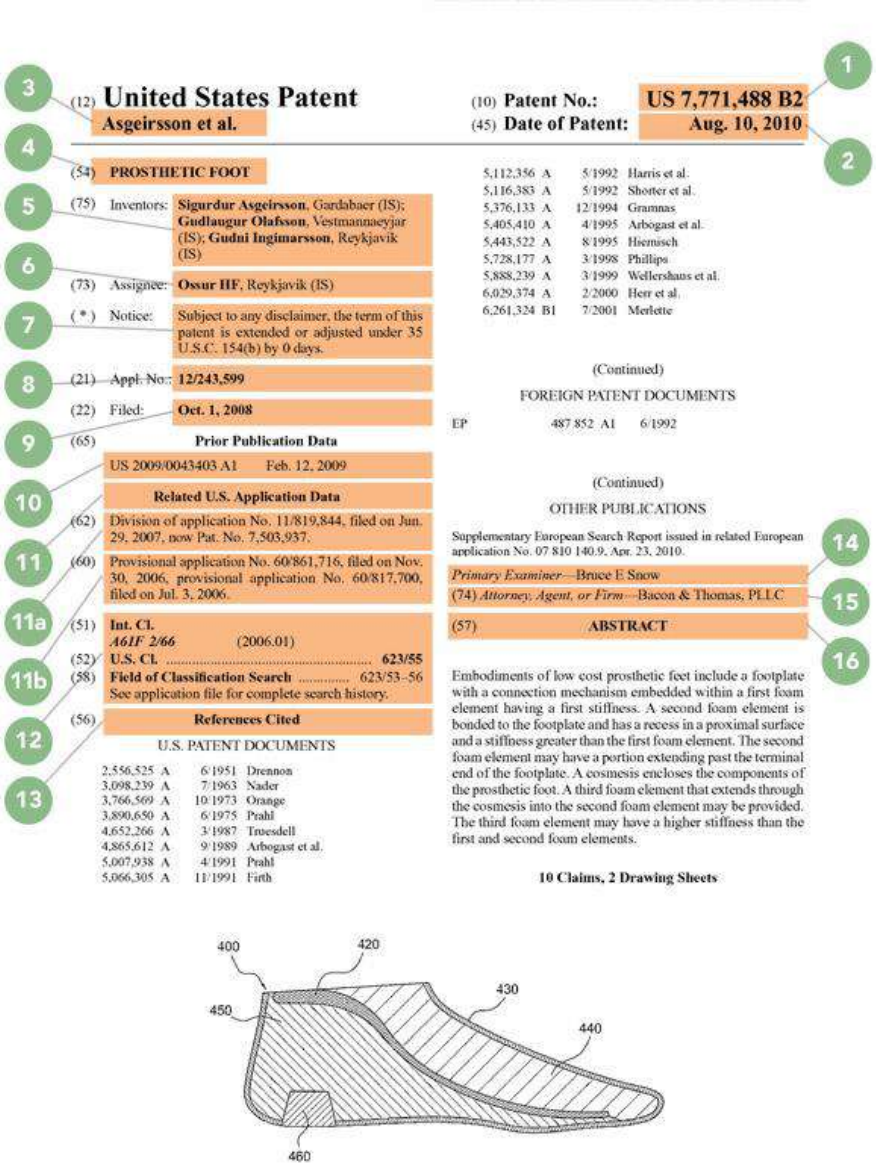

8. Application Number: This is the number assigned by the Patent Office for processing of the application while it is examined. It is not the same as the patent number.

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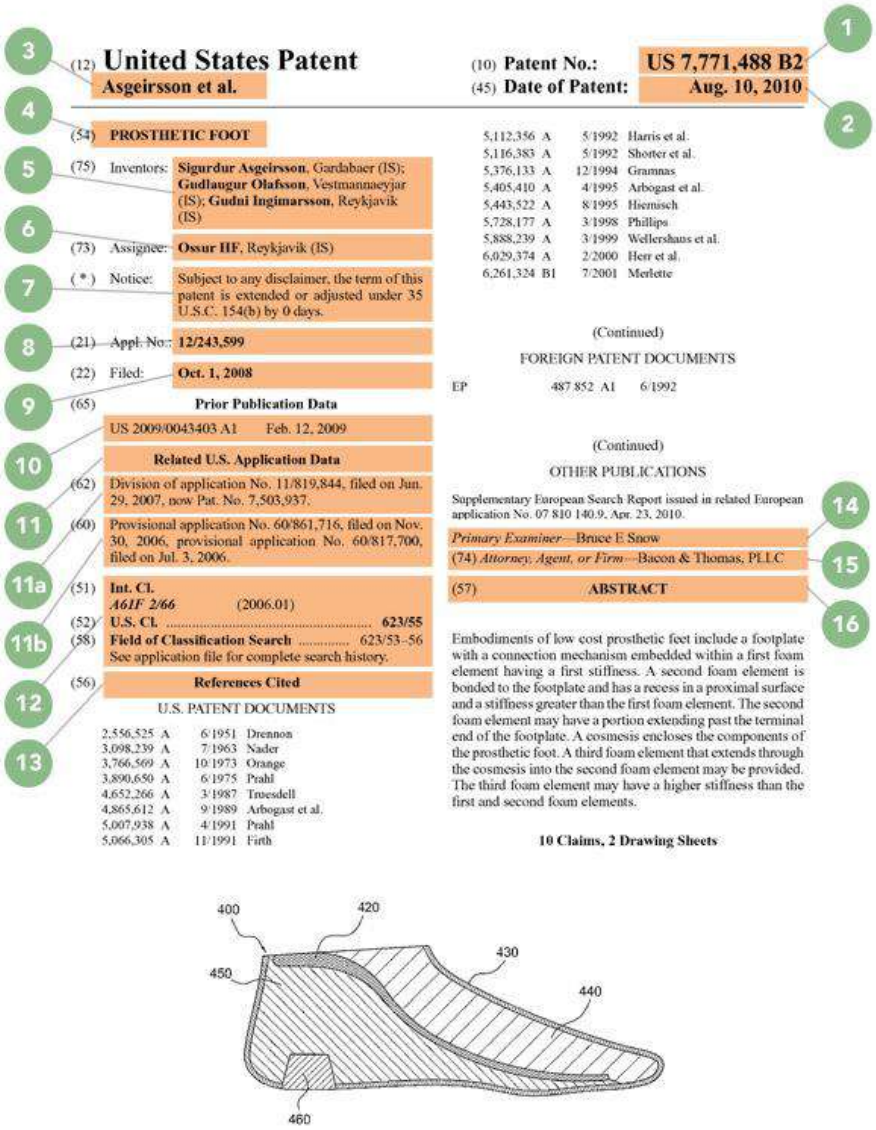

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10 Claims, 2 Drawing Sheets

9. Filing Date: The date on which the patent application was filed. The filing date may be the priority date of a patent application which assumes is the date of the invention. While the priority date may be the same date as the filing date of the application, the priority date may be one year earlier if the application relies on the earlier filing date of a U.S. provisional application or a filing date of an earlier foreign patent application, each of which are filed within one year of the filing date.

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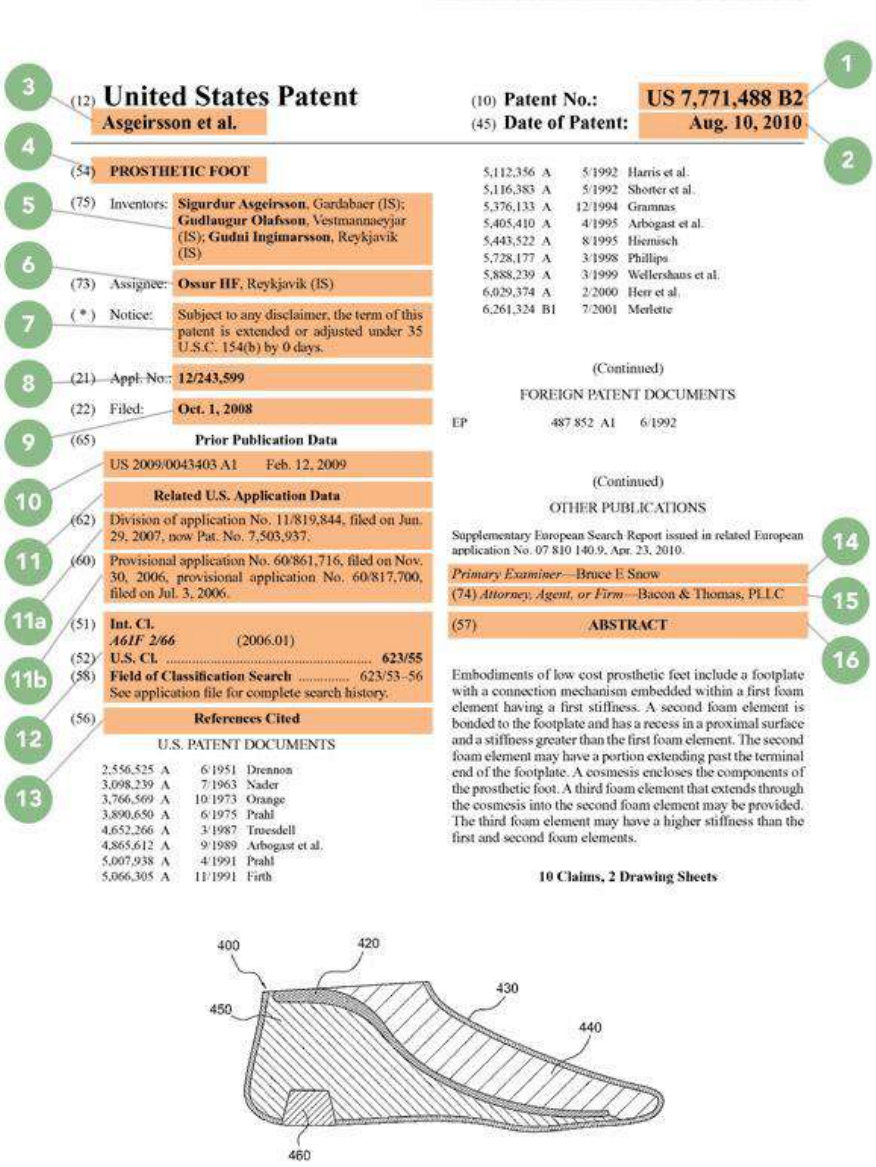

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10. Prior Publication Data (if applicable): The publication number and date that the application was published by the Patent Office, which typically occurs eighteen months after the earliest filing date of the application.

11. Related U.S. Application Data: This field relates to prior filed applications related to the pending application.

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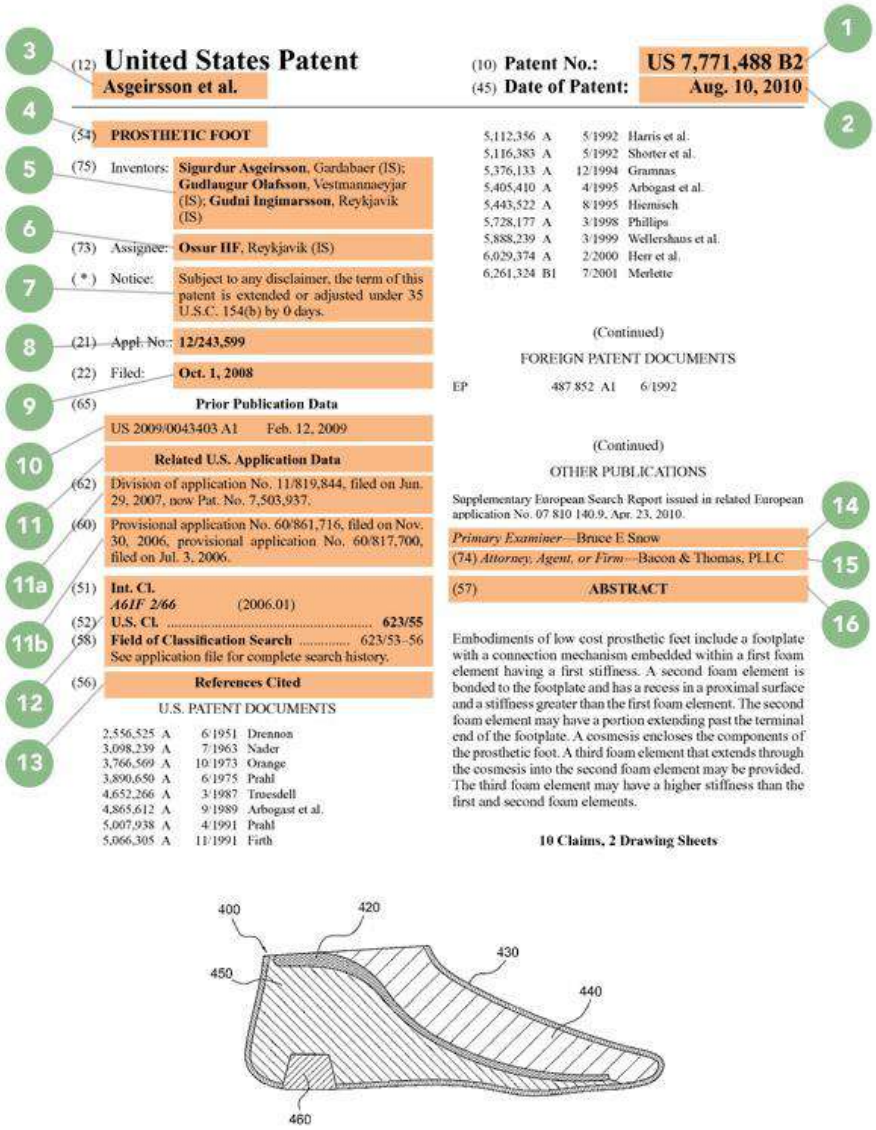

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11a. Continuing Patent Application (if applicable). A patent application which claims priority to an earlier patent application during its pendency. In the U.S., a continuation, divisional, or continuation-in-part application.

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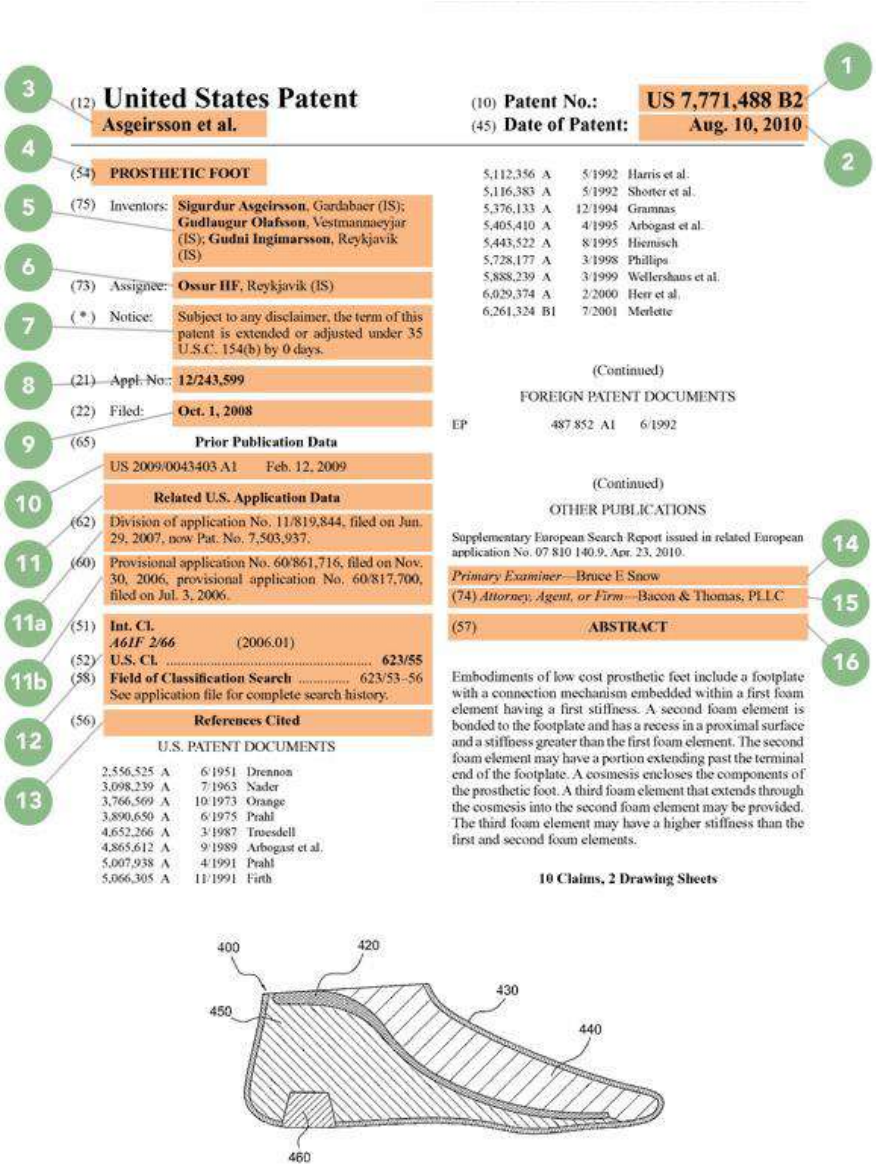

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11b. Provisional Application (if applicable): An application that establishes an early filing date of the invention and may be relied upon by a non-provisional application. The provisional application does not mature into an issued patent and expires within one year of its filing date.

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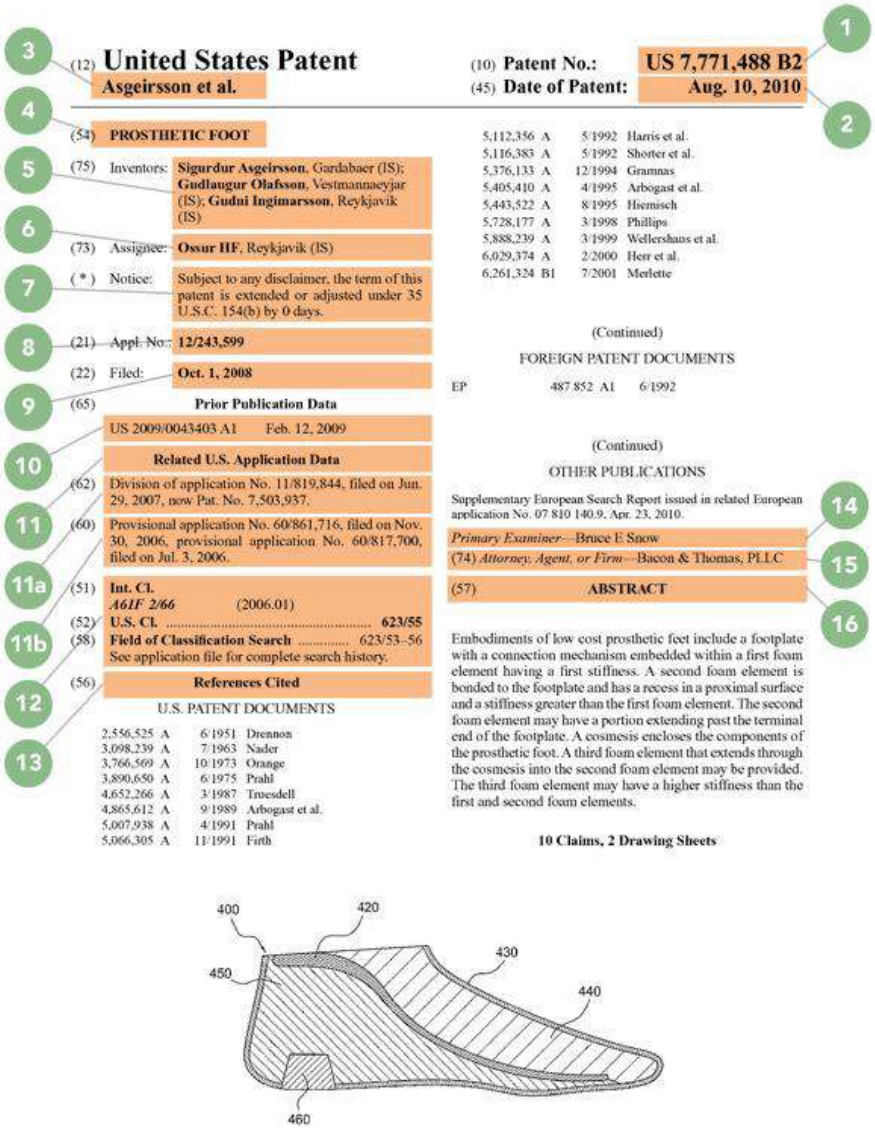

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Supplementary European Search Report issued in related European application No. 07 810 140.9, Apr. 23, 2010.

Primary Examiner—Bruce E Snow
(74) *Attorney, Agent, or Firm*—Bacon & Thomas, PLLC

(57) **ABSTRACT**

Embodiments of low cost prosthetic feet include a footplate with a connection mechanism embedded within a first foam element having a first stiffness. A second foam element is bonded to the footplate and has a recess in a proximal surface and a stiffness greater than the first foam element. The second foam element may have a portion extending past the terminal end of the footplate. A cosmesis encloses the components of the prosthetic foot. A third foam element that extends through the cosmesis into the second foam element may be provided. The third foam element may have a higher stiffness than the first and second foam elements.

10 Claims, 2 Drawing Sheets

12. Field of Search: The field of the prior art searched by the examiner as classified by the Patent Office in classess and subclasses (i.e., U.S. Cl. followed by XX/XX), as well as international classifications (i.e., Int. Cl.).

13. References Cited: This field includes earlier patents and patent publications (either U.S. or Foreign), or other publications disclosing inventions or subject matter similar to the invention of the patent. These references are considered "prior art."

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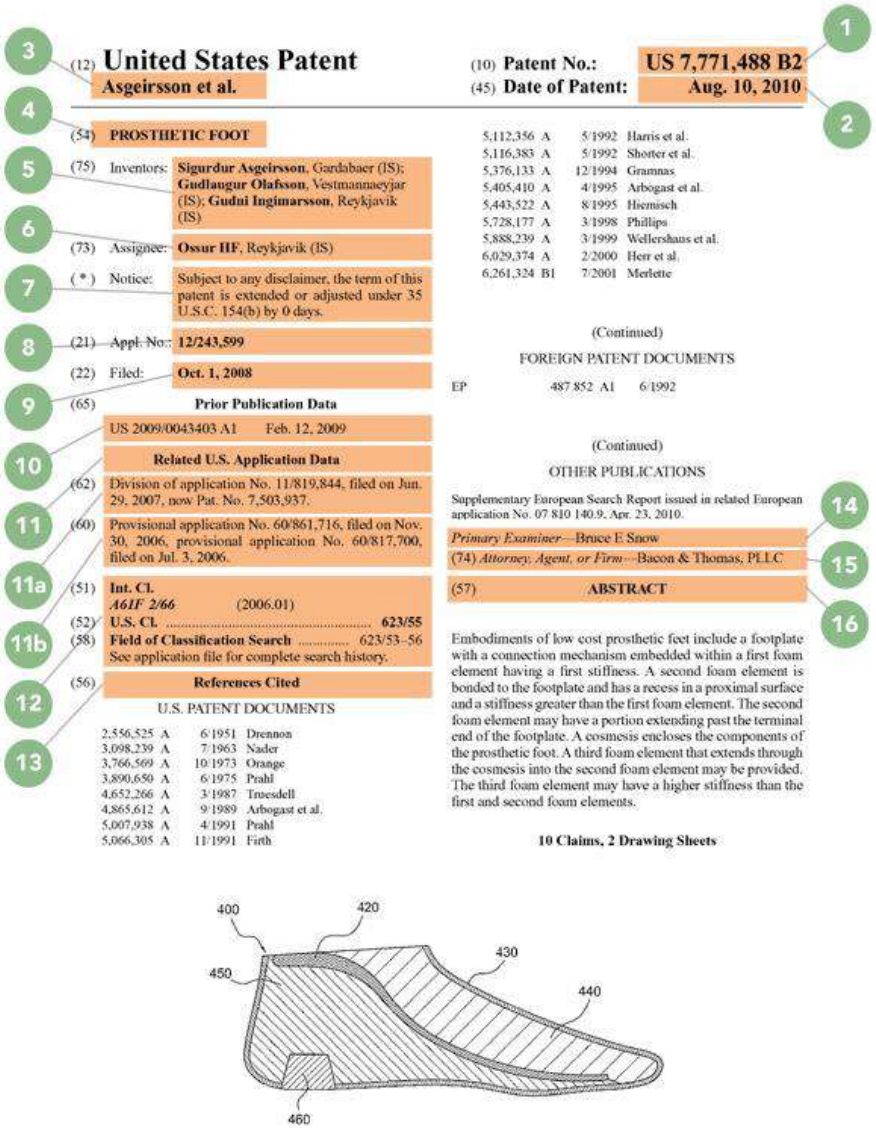
Patent Anatomy



14. Examiner: An employee of the Patent Office who participated in the examination of the application. This field may list both a primary examiner and an assistant examiner.

15. Attorney, Agent or Firm: The attorney, agent or law firm that represented the inventors in obtaining the patent.

16. Abstract: The abstract is a concise and general technical summary of the invention provided to inform the public.

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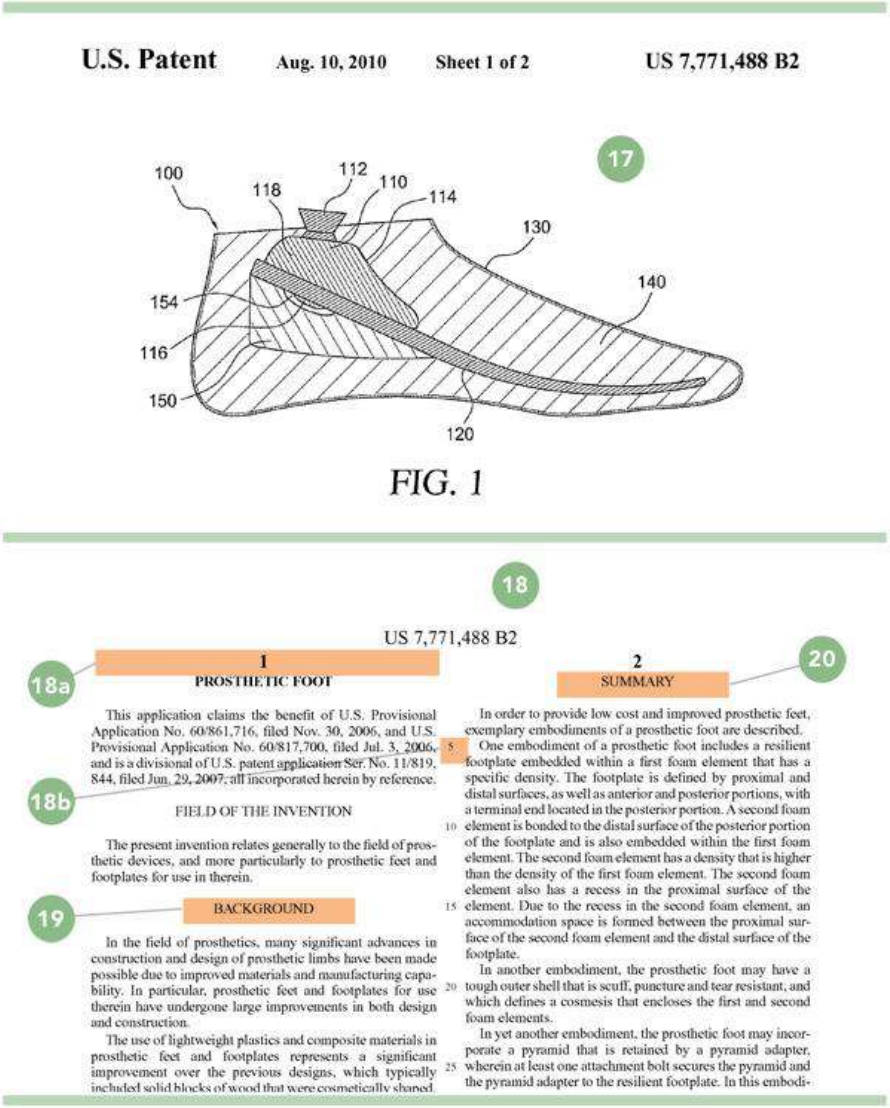

17. Drawings: The drawings contain illustrations, diagrams, charts and other visual aids that are used to describe the invention. The drawings are numbered and discussed in more detail in the specification. A drawing is necessary whenever the nature of the invention requires a drawing to be understood.

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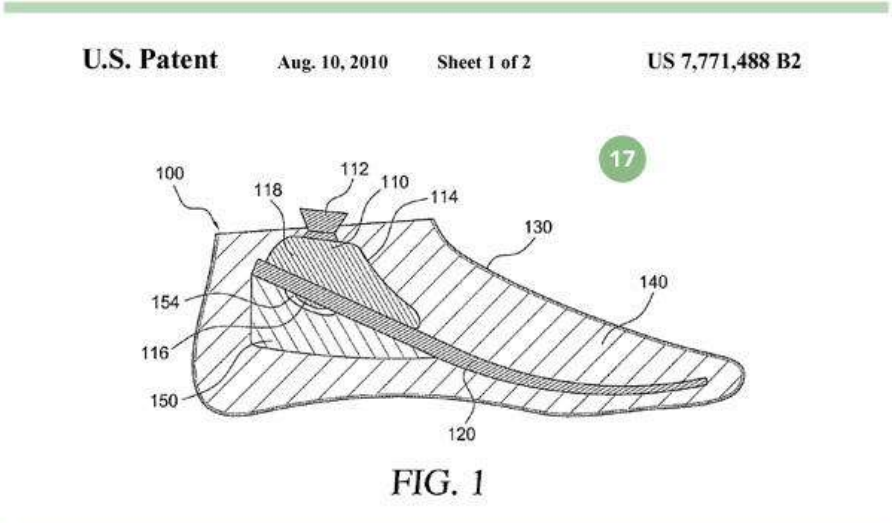

18. Specification: The specification, which is also called the disclosure, describes the invention and defines the scope of the claims. A specification is typically divided as follows: a Drawing set and a written description typically including a Background of the Invention, Brief Summary of the Invention, Brief Description of the Drawings, Detailed Description of the Invention, and Claims.

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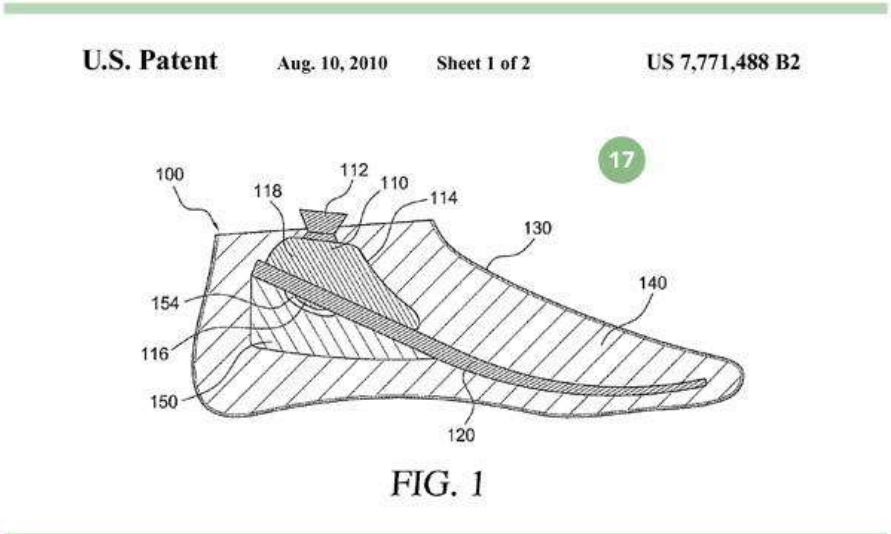

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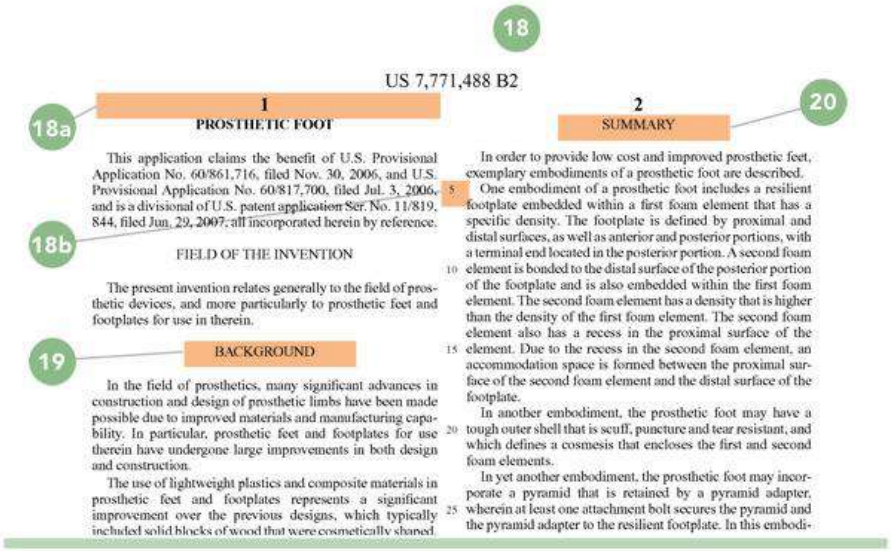
FIG. 1



This application claims the benefit of U.S. Provisional Application No. 60/861,716, filed Nov. 30, 2006, and U.S. Provisional Application No. 60/817,700, filed Jul. 3, 2006, and is a divisional of U.S. patent application Ser. No. 11/819,844, filed Jun. 29, 2007, all incorporated herein by reference.

The present invention relates generally to the field of prosthetic devices, and more particularly to prosthetic feet and footplates for use in therein.

In the field of prosthetics, many significant advances in construction and design of prosthetic limbs have been made possible due to improved materials and manufacturing capability. In particular, prosthetic feet and footplates for use therein have undergone large improvements in both design and construction.

The use of lightweight plastics and composite materials in prosthetic feet and footplates represents a significant improvement over the previous designs, which typically included solid blocks of wood that were cosmetically shaped.

In order to provide low cost and improved prosthetic feet, exemplary embodiments of a prosthetic foot are described.

One embodiment of a prosthetic foot includes a resilient footplate embedded within a first foam element that has a specific density. The footplate is defined by proximal and distal surfaces, as well as anterior and posterior portions, with a terminal end located in the posterior portion. A second foam element is bonded to the distal surface of the posterior portion of the footplate and is also embedded within the first foam element. The second foam element has a density that is higher than the density of the first foam element. The second foam element also has a recess in the proximal surface of the element. Due to the recess in the second foam element, an accommodation space is formed between the proximal surface of the second foam element and the distal surface of the footplate.

In another embodiment, the prosthetic foot may have a tough outer shell that is scuff, puncture and tear resistant, and which defines a cosmesis that encloses the first and second foam elements.

In yet another embodiment, the prosthetic foot may incorporate a pyramid that is retained by a pyramid adapter, wherein at least one attachment bolt secures the pyramid and the pyramid adapter to the resilient footplate. In this embodi-

18a. Columns: Each page of the written description is divided by numbered columns.

18b. Lines: Each column is divided into numbered lines.

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Patent Anatomy

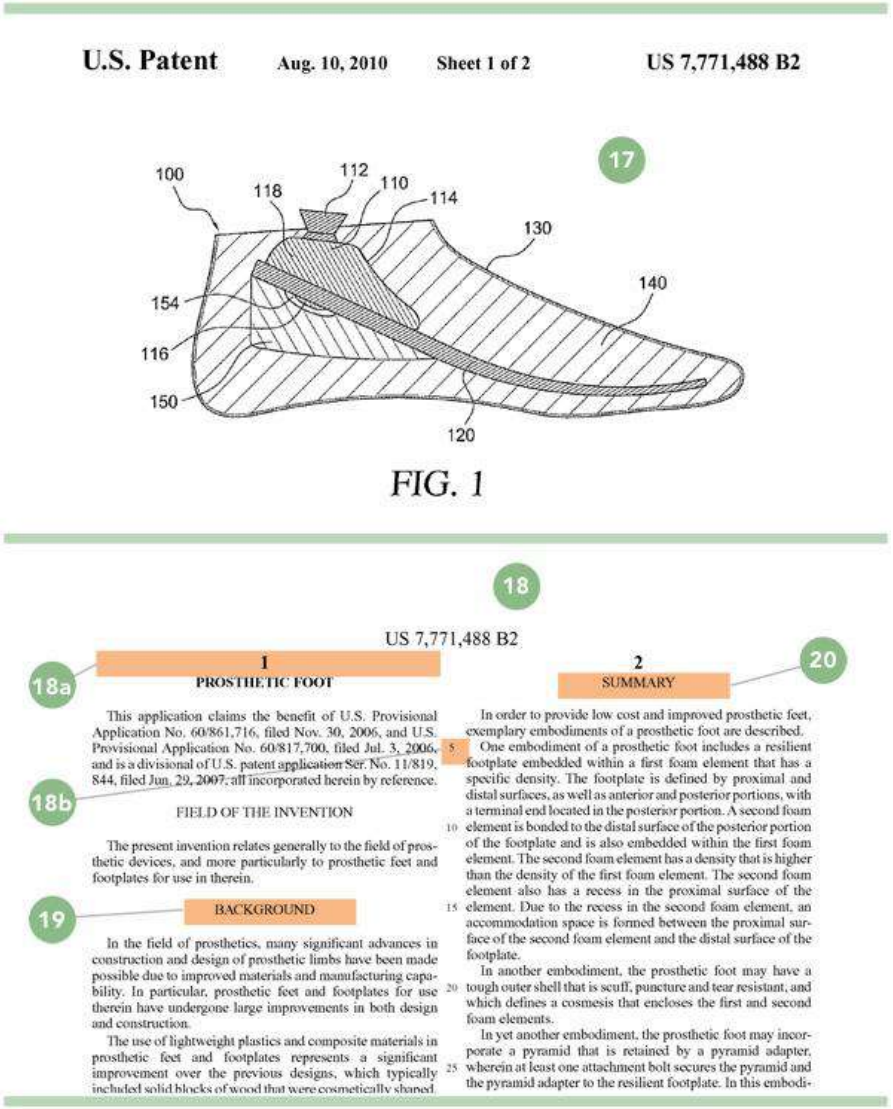

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FIG. 1

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PROSTHETIC FOOT

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FIELD OF THE INVENTION

The present invention relates generally to the field of prosthetic devices, and more particularly to prosthetic feet and footplates for use in therein.

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BACKGROUND

In the field of prosthetics, many significant advances in construction and design of prosthetic limbs have been made possible due to improved materials and manufacturing capability. In particular, prosthetic feet and footplates for use therein have undergone large improvements in both design and construction.

The use of lightweight plastics and composite materials in prosthetic feet and footplates represents a significant improvement over the previous designs, which typically included solid blocks of wood that were cosmetically shaped.

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SUMMARY

In order to provide low cost and improved prosthetic feet, exemplary embodiments of a prosthetic foot are described.

One embodiment of a prosthetic foot includes a resilient footplate embedded within a first foam element that has a specific density. The footplate is defined by proximal and distal surfaces, as well as anterior and posterior portions, with a terminal end located in the posterior portion. A second foam element is bonded to the distal surface of the posterior portion of the footplate and is also embedded within the first foam element. The second foam element has a density that is higher than the density of the first foam element. The second foam element also has a recess in the proximal surface of the element. Due to the recess in the second foam element, an accommodation space is formed between the proximal surface of the second foam element and the distal surface of the footplate.

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In yet another embodiment, the prosthetic foot may incorporate a pyramid that is retained by a pyramid adapter, wherein at least one attachment bolt secures the pyramid and the pyramid adapter to the resilient footplate. In this embodi-

19. Background of the Invention: The background of the invention is provided to describe the general and specific technical areas to which the invention is related. The background also may discuss the closest prior art to the invention and how such known prior art is different from the invention, as well as problems or disadvantages of known solutions at the time of the invention.

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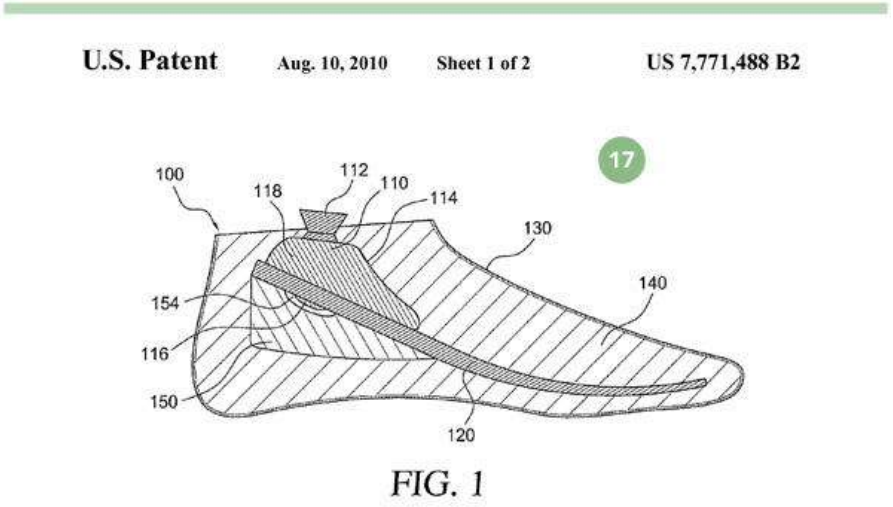
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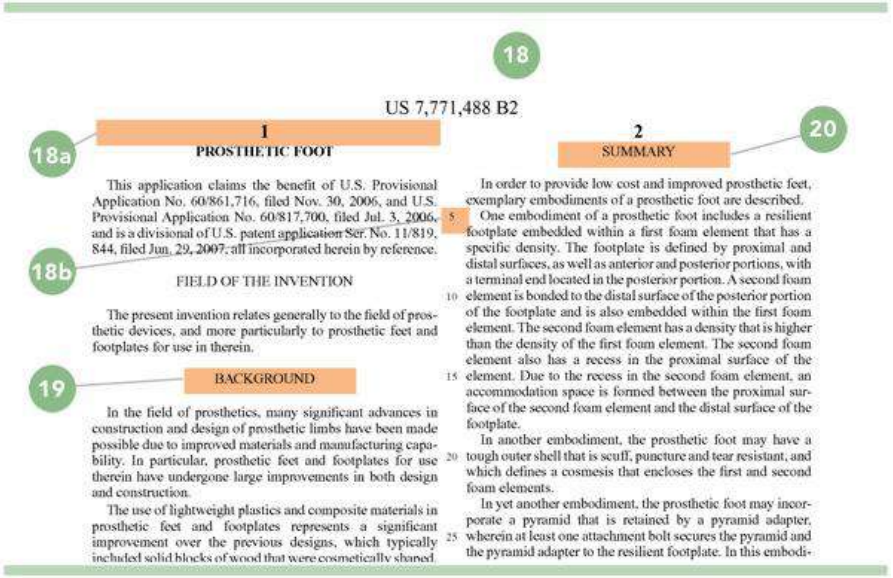
FIG. 1



20. Brief Summary of the Invention: The summary is used to describe the invention that is being claimed in the set of claims at the end of the patent. The summary may discuss the nature and substance of the invention, and include statements on the objectives of the invention.

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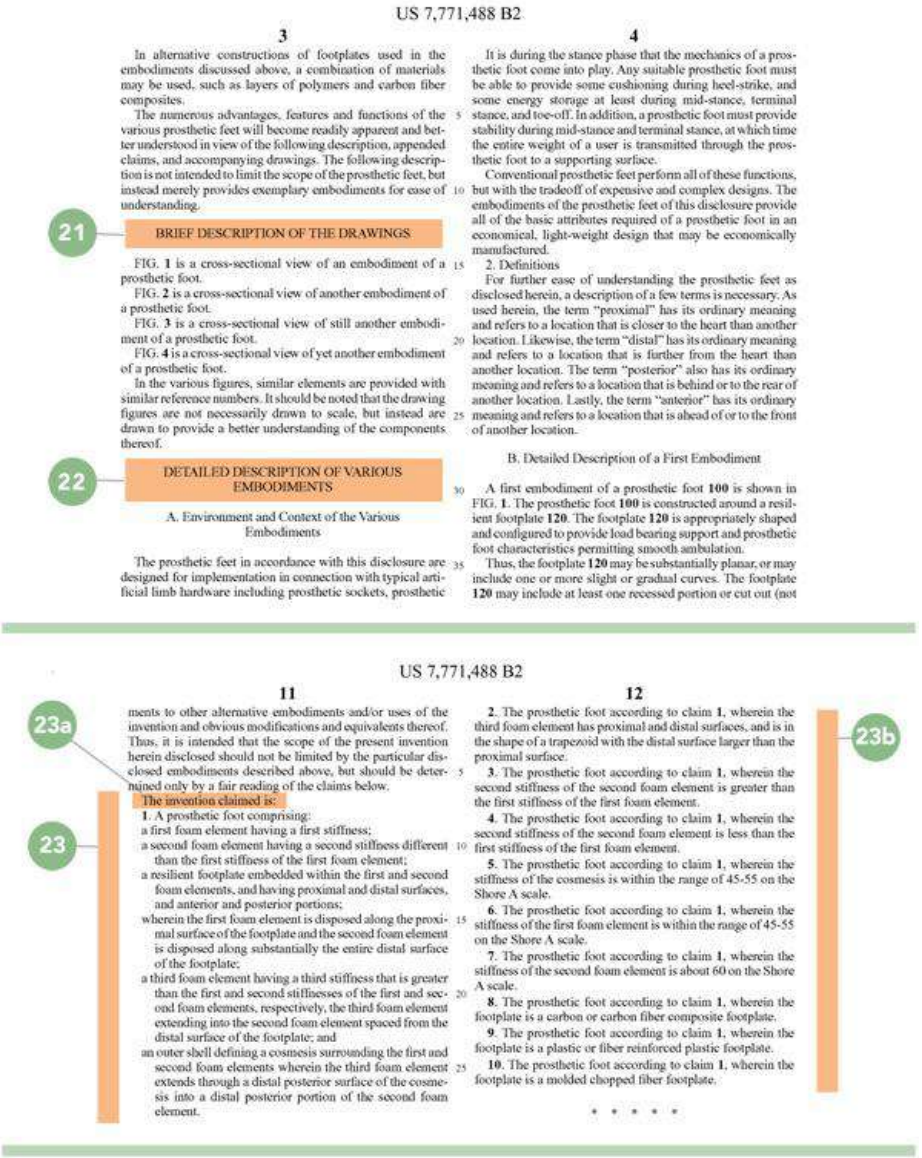
Patent Anatomy



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In alternative constructions of footplates used in the embodiments discussed above, a combination of materials may be used, such as layers of polymers and carbon fiber composites.

The numerous advantages, features and functions of the various prosthetic feet will become readily apparent and better understood in view of the following description, appended claims, and accompanying drawings. The following description is not intended to limit the scope of the prosthetic feet, but instead merely provides exemplary embodiments for ease of understanding.

21 BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a cross-sectional view of an embodiment of a prosthetic foot.

FIG. **2** is a cross-sectional view of another embodiment of a prosthetic foot.

FIG. **3** is a cross-sectional view of still another embodiment of a prosthetic foot.

FIG. **4** is a cross-sectional view of yet another embodiment of a prosthetic foot.

In the various figures, similar elements are provided with similar reference numbers. It should be noted that the drawing figures are not necessarily drawn to scale, but instead are drawn to provide a better understanding of the components thereof.

22 DETAILED DESCRIPTION OF VARIOUS EMBODIMENTS

A. Environment and Context of the Various Embodiments

The prosthetic feet in accordance with this disclosure are designed for implementation in connection with typical artificial limb hardware including prosthetic sockets, prosthetic

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It is during the stance phase that the mechanics of a prosthetic foot come into play. Any suitable prosthetic foot must be able to provide some cushioning during heel-strike, and some energy storage at least during mid-stance, terminal stance, and toe-off. In addition, a prosthetic foot must provide stability during mid-stance and terminal stance, at which time the entire weight of a user is transmitted through the prosthetic foot to a supporting surface.

Conventional prosthetic feet perform all of these functions, but with the tradeoff of expensive and complex designs. The embodiments of the prosthetic feet of this disclosure provide all of the basic attributes required of a prosthetic foot in an economical, light-weight design that may be economically manufactured.

2. Definitions

For further ease of understanding the prosthetic feet as disclosed herein, a description of a few terms is necessary. As used herein, the term "proximal" has its ordinary meaning and refers to a location that is closer to the heart than another location. Likewise, the term "distal" has its ordinary meaning and refers to a location that is further from the heart than another location. The term "posterior" also has its ordinary meaning and refers to a location that is behind or to the rear of another location. Lastly, the term "anterior" has its ordinary meaning and refers to a location that is ahead of or to the front of another location.

B. Detailed Description of a First Embodiment

A first embodiment of a prosthetic foot **100** is shown in FIG. **1**. The prosthetic foot **100** is constructed around a resilient footplate **120**. The footplate **120** is appropriately shaped and configured to provide load bearing support and prosthetic foot characteristics permitting smooth ambulation.

Thus, the footplate **120** may be substantially planar, or may include one or more slight or gradual curves. The footplate **120** may include at least one recessed portion or cut out (not

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ments to other alternative embodiments and/or uses of the invention and obvious modifications and equivalents thereof. Thus, it is intended that the scope of the present invention herein disclosed should not be limited by the particular disclosed embodiments described above, but should be determined only by a fair reading of the claims below.

23a The invention claimed is:

23 **1**. A prosthetic foot comprising:

a first foam element having a first stiffness;

a second foam element having a second stiffness different than the first stiffness of the first foam element;

a resilient footplate embedded within the first and second foam elements, and having proximal and distal surfaces, and anterior and posterior portions;

wherein the first foam element is disposed along the proximal surface of the footplate and the second foam element is disposed along substantially the entire distal surface of the footplate;

a third foam element having a third stiffness that is greater than the first and second stiffnesses of the first and second foam elements, respectively, the third foam element extending into the second foam element spaced from the distal surface of the footplate; and

an outer shell defining a cosmesis surrounding the first and second foam elements wherein the third foam element extends through a distal posterior surface of the cosmesis into a distal posterior portion of the second foam element.

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2. The prosthetic foot according to claim **1**, wherein the third foam element has proximal and distal surfaces, and is in the shape of a trapezoid with the distal surface larger than the proximal surface.

3. The prosthetic foot according to claim **1**, wherein the second stiffness of the second foam element is greater than the first stiffness of the first foam element.

4. The prosthetic foot according to claim **1**, wherein the second stiffness of the second foam element is less than the first stiffness of the first foam element.

5. The prosthetic foot according to claim **1**, wherein the stiffness of the cosmesis is within the range of 45-55 on the Shore A scale.

6. The prosthetic foot according to claim **1**, wherein the stiffness of the first foam element is within the range of 45-55 on the Shore A scale.

7. The prosthetic foot according to claim **1**, wherein the stiffness of the second foam element is about 60 on the Shore A scale.

8. The prosthetic foot according to claim **1**, wherein the footplate is a carbon or carbon fiber composite footplate.

9. The prosthetic foot according to claim **1**, wherein the footplate is a plastic or fiber reinforced plastic footplate.

10. The prosthetic foot according to claim **1**, wherein the footplate is a molded chopped fiber footplate.

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21. Brief Description of the Drawings. The brief description of the drawings provides short and concise summary as to the general nature of each drawing included in the patent, including such information as what is depicted in each drawing figure, the number of the drawing figure, and the type of drawing depicted by the figure.

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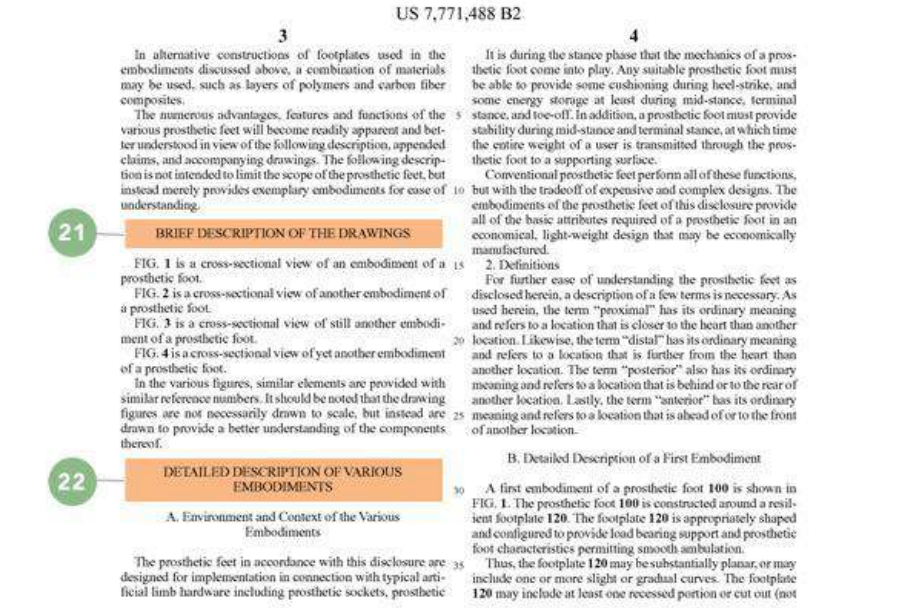
Patent Anatomy



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In the various figures, similar elements are provided with similar reference numbers. It should be noted that the drawing figures are not necessarily drawn to scale, but instead are drawn to provide a better understanding of the components thereof.

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Conventional prosthetic feet perform all of these functions, but with the tradeoff of expensive and complex designs. The embodiments of the prosthetic feet of this disclosure provide all of the basic attributes required of a prosthetic foot in an economical, light-weight design that may be economically manufactured.

2. Definitions

For further ease of understanding the prosthetic feet as disclosed herein, a description of a few terms is necessary. As used herein, the term "proximal" has its ordinary meaning and refers to a location that is closer to the heart than another location. Likewise, the term "distal" has its ordinary meaning and refers to a location that is further from the heart than another location. The term "posterior" also has its ordinary meaning and refers to a location that is behind or to the rear of another location. Lastly, the term "anterior" has its ordinary meaning and refers to a location that is ahead of or to the front of another location.

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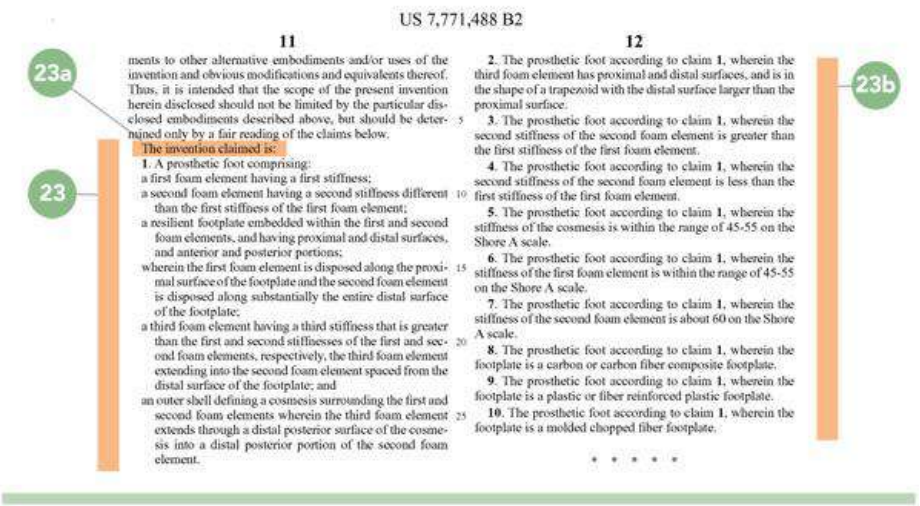
Thus, the footplate **120** may be substantially planar, or may include one or more slight or gradual curves. The footplate **120** may include at least one recessed portion or cut out (not



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a first foam element having a first stiffness;

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a resilient footplate embedded within the first and second foam elements, and having proximal and distal surfaces, and anterior and posterior portions;

wherein the first foam element is disposed along the proximal surface of the footplate and the second foam element is disposed along substantially the entire distal surface of the footplate;

a third foam element having a third stiffness that is greater than the first and second stiffnesses of the first and second foam elements, respectively, the third foam element extending into the second foam element spaced from the distal surface of the footplate; and

an outer shell defining a cosmesis surrounding the first and second foam elements wherein the third foam element extends through a distal posterior surface of the cosmesis into a distal posterior portion of the second foam element.

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2. The prosthetic foot according to claim **1**, wherein the third foam element has proximal and distal surfaces, and is in the shape of a trapezoid with the distal surface larger than the proximal surface.

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10. The prosthetic foot according to claim **1**, wherein the footplate is a molded chopped fiber footplate.

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22. Detailed Description of Invention. The detailed description of the invention describes the entirety of the invention in combination with the drawings. This description will discuss various exemplary embodiments of the invention, and is sufficiently detailed to enable one reading the description to be able to make or use the invention. The description refers to the various drawing figures and numbered elements provided in the figures. The description should described best mode of the invention so that the skilled person can carry out the invention.

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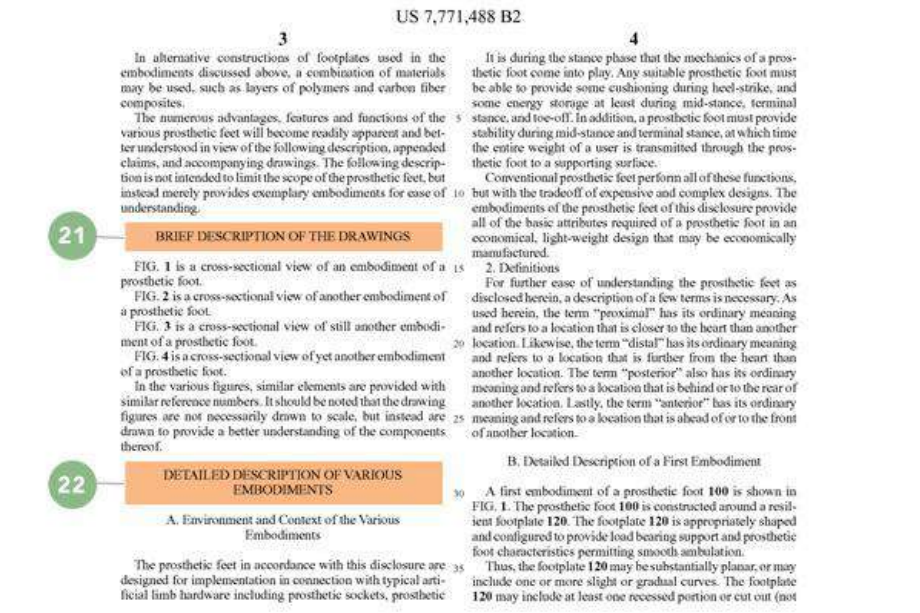
Patent Anatomy



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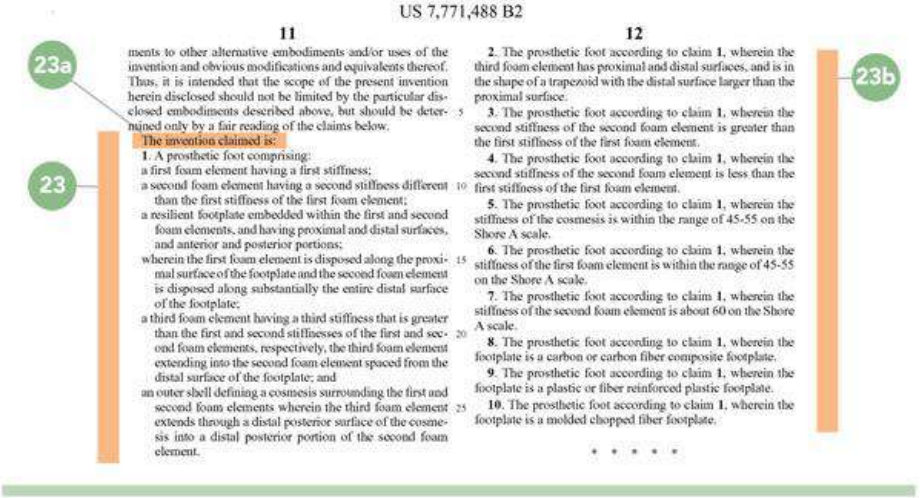

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23. Claims: The claims are statements found at the end of the patent that define the legal protection of the patent. The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.

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Patent Anatomy

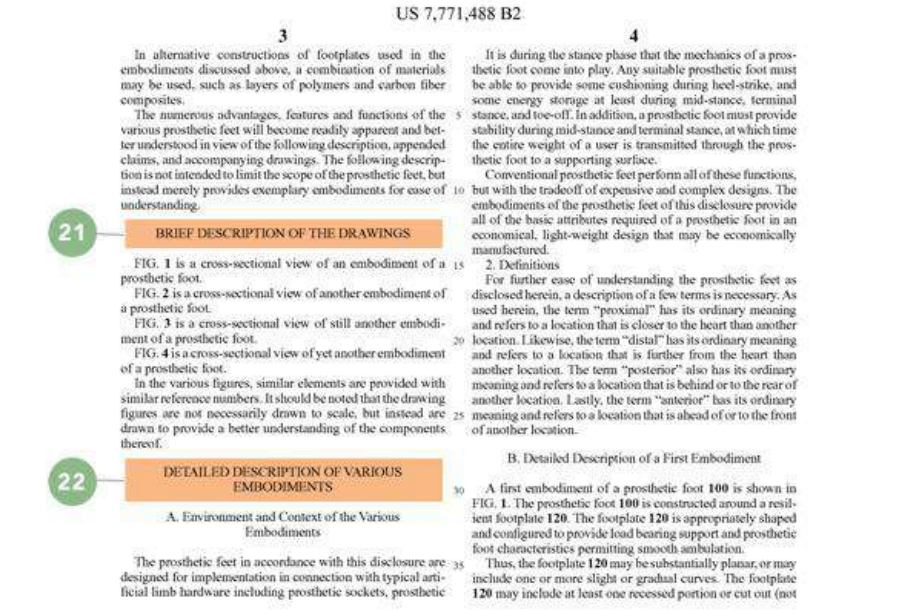

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FIG. **2** is a cross-sectional view of another embodiment of a prosthetic foot.

FIG. **3** is a cross-sectional view of still another embodiment of a prosthetic foot.

FIG. **4** is a cross-sectional view of yet another embodiment of a prosthetic foot.

In the various figures, similar elements are provided with similar reference numbers. It should be noted that the drawing figures are not necessarily drawn to scale, but instead are drawn to provide a better understanding of the components thereof.

22 DETAILED DESCRIPTION OF VARIOUS EMBODIMENTS

A. Environment and Context of the Various Embodiments

The prosthetic feet in accordance with this disclosure are designed for implementation in connection with typical artificial limb hardware including prosthetic sockets, prosthetic

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It is during the stance phase that the mechanics of a prosthetic foot come into play. Any suitable prosthetic foot must be able to provide some cushioning during heel-strike, and some energy storage at least during mid-stance, terminal stance, and toe-off. In addition, a prosthetic foot must provide stability during mid-stance and terminal stance, at which time the entire weight of a user is transmitted through the prosthetic foot to a supporting surface.

Conventional prosthetic feet perform all of these functions, but with the tradeoff of expensive and complex designs. The embodiments of the prosthetic feet of this disclosure provide all of the basic attributes required of a prosthetic foot in an economical, light-weight design that may be economically manufactured.

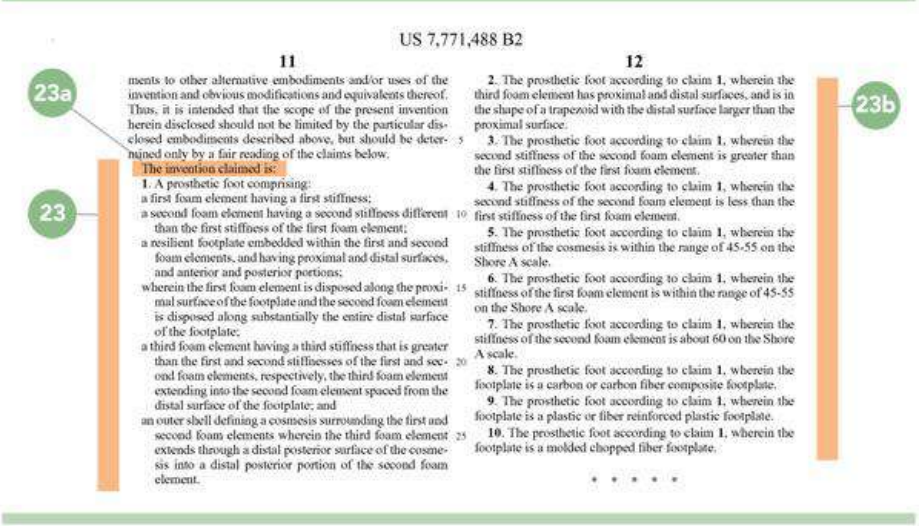
2. Definitions

For further ease of understanding the prosthetic feet as disclosed herein, a description of a few terms is necessary. As used herein, the term "proximal" has its ordinary meaning and refers to a location that is closer to the heart than another location. Likewise, the term "distal" has its ordinary meaning and refers to a location that is further from the heart than another location. The term "posterior" also has its ordinary meaning and refers to a location that is behind or to the rear of another location. Lastly, the term "anterior" has its ordinary meaning and refers to a location that is ahead of or to the front of another location.

B. Detailed Description of a First Embodiment

A first embodiment of a prosthetic foot **100** is shown in FIG. **1**. The prosthetic foot **100** is constructed around a resilient footplate **120**. The footplate **120** is appropriately shaped and configured to provide load bearing support and prosthetic foot characteristics permitting smooth ambulation.

Thus, the footplate **120** may be substantially planar, or may include one or more slight or gradual curves. The footplate **120** may include at least one recessed portion or cut out (not



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ments to other alternative embodiments and/or uses of the invention and obvious modifications and equivalents thereof. Thus, it is intended that the scope of the present invention herein disclosed should not be limited by the particular disclosed embodiments described above, but should be determined only by a fair reading of the claims below.

23a The invention claimed is:

23 **1**. A prosthetic foot comprising:

a first foam element having a first stiffness;

a second foam element having a second stiffness different than the first stiffness of the first foam element;

a resilient footplate embedded within the first and second foam elements, and having proximal and distal surfaces, and anterior and posterior portions;

wherein the first foam element is disposed along the proximal surface of the footplate and the second foam element is disposed along substantially the entire distal surface of the footplate;

a third foam element having a third stiffness that is greater than the first and second stiffnesses of the first and second foam elements, respectively, the third foam element extending into the second foam element spaced from the distal surface of the footplate; and

an outer shell defining a cosmesis surrounding the first and second foam elements wherein the third foam element extends through a distal posterior surface of the cosmesis into a distal posterior portion of the second foam element.

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2. The prosthetic foot according to claim **1**, wherein the third foam element has proximal and distal surfaces, and is in the shape of a trapezoid with the distal surface larger than the proximal surface.

3. The prosthetic foot according to claim **1**, wherein the second stiffness of the second foam element is greater than the first stiffness of the first foam element.

4. The prosthetic foot according to claim **1**, wherein the second stiffness of the second foam element is less than the first stiffness of the first foam element.

5. The prosthetic foot according to claim **1**, wherein the stiffness of the cosmesis is within the range of 45-55 on the Shore A scale.

6. The prosthetic foot according to claim **1**, wherein the stiffness of the first foam element is within the range of 45-55 on the Shore A scale.

7. The prosthetic foot according to claim **1**, wherein the stiffness of the second foam element is about 60 on the Shore A scale.

8. The prosthetic foot according to claim **1**, wherein the footplate is a carbon or carbon fiber composite footplate.

9. The prosthetic foot according to claim **1**, wherein the footplate is a plastic or fiber reinforced plastic footplate.

10. The prosthetic foot according to claim **1**, wherein the footplate is a molded chopped fiber footplate.

* * * * *

23b

23a. Independent claim. An independent claim typically describes the scope of protection of the patent in its broadest terms. The claims includes elements in the form of limitations that are part of the invention.

23b. Dependent claim. A dependent claim includes all of the limitations of the independent claim from which it depends plus the limitations stated in the dependent claim.

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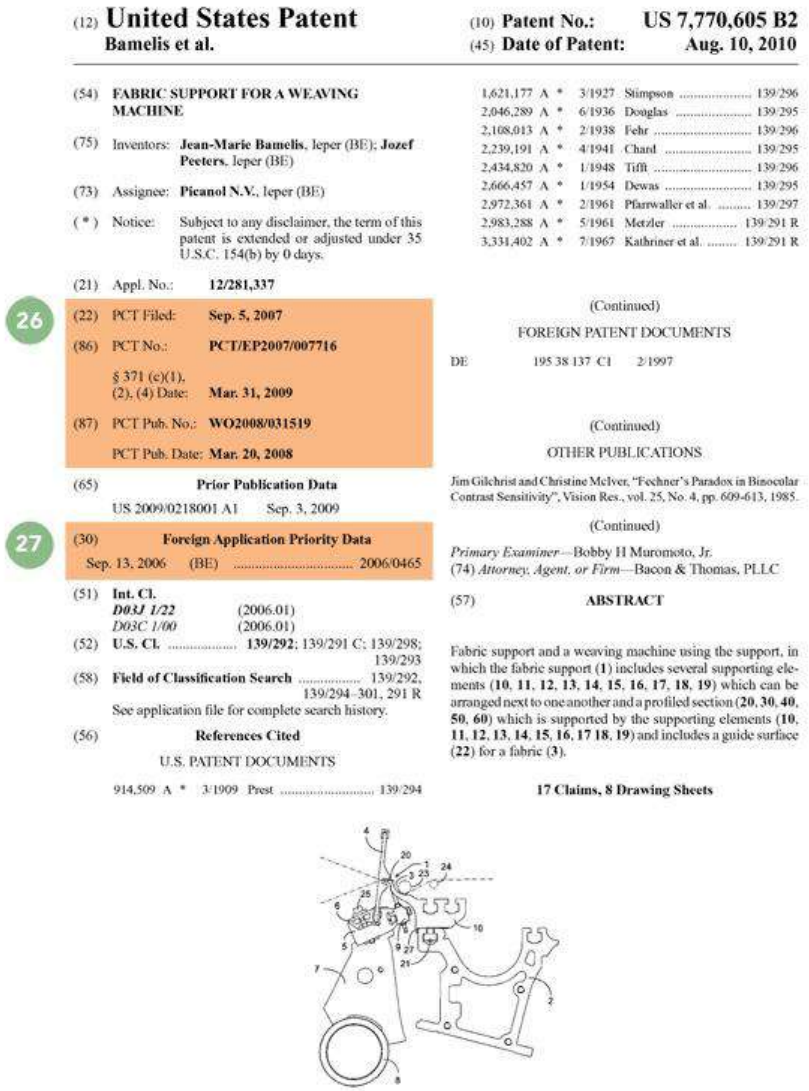
Patent Anatomy



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

(10) **Patent No.: US 7,770,605 B2**
(45) **Date of Patent: Aug. 10, 2010**

(54) **FABRIC SUPPORT FOR A WEAVING MACHINE**

(75) Inventors: **Jean-Marie Bamelis**, Ieper (BE); **Jozef Peeters**, Ieper (BE)

(73) Assignee: **Picanol N.V.**, Ieper (BE)

(*) 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.: **12/281,337**

26

(22) PCT Filed: **Sep. 5, 2007**

(86) PCT No.: **PCT/EP2007/007716**

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(2), (4) Date: **Mar. 31, 2009**

(87) PCT Pub. No.: **WO2008/031519**

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(65) **Prior Publication Data**

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(30) **Foreign Application Priority Data**

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(51) **Int. Cl.**
D03J 1/22 (2006.01)
D03C 1/00 (2006.01)

(52) **U.S. Cl.** ..... **139/292**; 139/291 C; 139/298; 139/293

(58) **Field of Classification Search** ..... 139/292, 139/294–301, 291 R

See application file for complete search history.

(56) **References Cited**

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Primary Examiner—Bobby H Muromoto, Jr.
(74) *Attorney, Agent, or Firm*—Bacon & Thomas, PLLC

(57) **ABSTRACT**

Fabric support and a weaving machine using the support, in which the fabric support (**1**) includes several supporting elements (**10**, **11**, **12**, **13**, **14**, **15**, **16**, **17**, **18**, **19**) which can be arranged next to one another and a profiled section (**20**, **30**, **40**, **50**, **60**) which is supported by the supporting elements (**10**, **11**, **12**, **13**, **14**, **15**, **16**, **17 18**, **19**) and includes a guide surface (**22**) for a fabric (**3**).

17 Claims, 8 Drawing Sheets

26. PCT Application Data: A number of an application and its filing date filed with the World Intellectual Property Organization (WIPO) under the Patent Cooperative Treaty (PCT). Various data associated with the PCT application include the PCT application PCT Number, PCT 371 Date, PCT 102(e) Date, PCT Filing Date, PCT Publication Number, PCT Publication Date.

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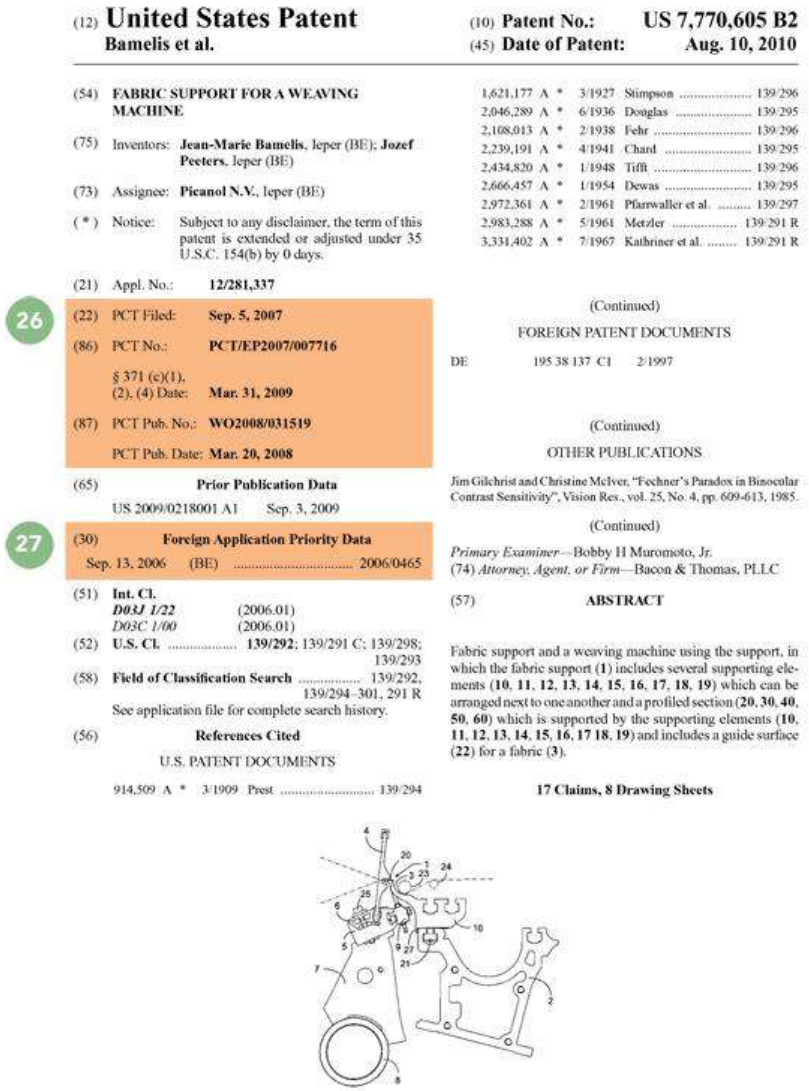
Patent Anatomy



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Primary Examiner—Bobby H Muromoto, Jr.
(74) *Attorney, Agent, or Firm*—Bacon & Thomas, PLLC

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Fabric support and a weaving machine using the support, in which the fabric support (**1**) includes several supporting elements (**10**, **11**, **12**, **13**, **14**, **15**, **16**, **17**, **18**, **19**) which can be arranged next to one another and a profiled section (**20**, **30**, **40**, **50**, **60**) which is supported by the supporting elements (**10**, **11**, **12**, **13**, **14**, **15**, **16**, **17 18**, **19**) and includes a guide surface (**22**) for a fabric (**3**).

17 Claims, 8 Drawing Sheets

27. Foreign Priority Data: A field of data describing the application or applications filed outside of the U.S. upon which priority is claimed in the application.

http://www.baconthomas.com/p_anatomy.html

ส่วนประกอบของคำขอรับสิทธิบัตรไทย

คำขอรับสิทธิบัตร ประกอบด้วย 4 ส่วนหลัก

1. รายละเอียดการประดิษฐ์ (Description)
   - ชื่อที่แสดงถึงการประดิษฐ์
   - สาขาวิทยาการที่เกี่ยวข้องกับการประดิษฐ์
   - ภูมิหลังของศิลปะหรือวิทยาการที่เกี่ยวข้อง
   - ลักษณะและความมุ่งหมายของการประดิษฐ์
   - การเปิดเผยการประดิษฐ์โดยสมบูรณ์
   - คำอธิบายรูปเขียนโดยย่อ - วิธีการในการประดิษฐ์ที่ดีที่สุด
2. ข้อถือสิทธิ (Claims)
3. บทสรุปการประดิษฐ์ (Summary of the invention)
4. รูปเขียน ถ้ามี (Drawing)

ส่วนประกอบของคำขอรับสิทธิบัตรไทย

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รายละเอียดการประดิษฐ์

ชื่อที่แสดงถึงการประดิษฐ์ Title

อุปกรณ์สำหรับการสกัดสารอินทรีย์

สาขาวิทยาการที่เกี่ยวข้องกับการประดิษฐ์ Field of the invention

สาขาเคมีในส่วนที่เกี่ยวข้องกับอุปกรณ์สำหรับการสกัดสารอินทรีย์

ภูมิหลังของศิลปะหรือวิทยาการที่เกี่ยวข้อง Background of the invention

การวิเคราะห์สารอินทรีย์ (organic compound) ปริมาณน้อยที่ปนเปื้อน หรือ ตกค้างทั้งในสิ่งแวดล้อม อาหาร เครื่องดื่ม และยา ทำได้ยาก ไม่สามารถตรวจวัดได้โดยตรง เนื่องจากสารอินทรีย์เหล่านี้มีการปนเปื้อนในปริมาณน้อยมาก และองค์ประกอบอื่น ๆ ในตัวอย่างอาจส่งผลรบกวนการวิเคราะห์ จึงจำเป็นต้องอาศัยเทคนิคการเตรียมตัวอย่าง เพื่อกำจัดตัวรบกวนและเพิ่มความเข้มข้นสารที่สนใจวิเคราะห์ให้อยู่ในระดับที่เครื่องมือสามารถวิเคราะห์ได้

เทคนิคการเตรียมตัวอย่างที่นิยมใช้ในการวิเคราะห์สารอินทรีย์ ได้แก่ การสกัดด้วยตัวทำละลายอินทรีย์ (liquid liquid extraction, LLE) การสกัดด้วยตัวดูดซับของแข็ง (solid-phase extraction, SPE) การสกัดแบบสเตอร์บาร์ ซอพทีฟ (stir-bar sorptive extraction, SBSE) การสกัดด้วยตัวดูดซับแม่เหล็ก (magnetic solid phase extraction, MSPE) การเตรียมตัวอย่างดังกล่าวมีประสิทธิภาพการสกัดดี แต่มีข้อด้อยคือ การสกัดด้วยตัวทำละลายอินทรีย์ ต้องใช้ตัวทำละลายอินทรีย์ในปริมาณมาก ใช้เวลาในการสกัดนาน มีหลายขั้นตอนที่ยุ่งยากซึ่งอาจทำให้สูญเสียตัวอย่างระหว่างการสกัดได้ การสกัดด้วยดูดซับของแข็ง เป็น

ส่วนประกอบของคำขอรับสิทธิบัตรไทย

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ลักษณะและความมุ่งหมายของการประดิษฐ์

Abstract

อุปกรณ์สำหรับการสกัดสารอินทรีย์ ประกอบด้วย ตัวดูดซับ มีลักษณะเป็นฟิล์มบางๆ ซึ่งเคลือบอยู่บนแท่งคาร์บอน โดยแท่งคาร์บอนจะถูกยึดติดด้วยเกลียวหมุน ที่ยึดไว้กับท่อทรงกระบอกกลวง โดยเกลียวหมุนและท่อทรงกระบอกกลวง จะมีเกลียวหมุนชนิดเดียวกัน เพื่อที่จะสามารถหมุนขึ้นลงได้ โดยจะมีปุ่มหมุนอยู่ปลายด้านบนสุดของท่อทรงกระบอกกลวง เป็นตัวควบคุมการหมุนขึ้นลงของแท่งคาร์บอน ส่วนฝากรวยมีลักษณะเป็นทรงกรวยและกลวง อยู่ปลายล่างสุดของท่อทรงกระบอกกลวง

ความมุ่งหมายของการประดิษฐ์นี้เพื่อพัฒนาอุปกรณ์สกัดสารอินทรีย์แบบหมุน ที่เตรียมได้ง่าย สะดวกในการที่จะนำไปใช้งานนอกสนาม สามารถกำจัดตัวรบกวนและเพิ่มความเข้มข้นของสารอินทรีย์ที่สนใจ

ส่วนประกอบของคำขอรับสิทธิบัตรไทย

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คำอธิบายรูปเขียนโดยย่อ Brief description of the drawings

รูปที่ 1 แสดงอุปกรณ์สำหรับการสกัดสารอินทรีย์

การเปิดเผยการประดิษฐ์โดยสมบูรณ์ Description of the invention

อุปกรณ์สำหรับการสกัดสารอินทรีย์ ตามการประดิษฐ์นี้ ประกอบด้วย ตัวดูดซับ (1) มีลักษณะเป็นฟิล์มบาง ๆ ทำหน้าที่จับสารอินทรีย์ โดยตัวดูดซับ (1) เลือกได้จาก ตัวดูดซับครัยโอเจล ตัวดูดซับพอลิเมอร์ ทั้งพอลิเมอร์นำไฟฟ้าและไม่นำไฟฟ้า ได้แก่ พอลิเอทิลีน, พอลิไพโรล เป็นต้น ตัวดูดซับอนุภาคนาโนโลหะ ได้แก่ อนุภาคนาโนเงิน อนุภาคนาโนทอง เป็นต้น ตัวดูดซับคาร์บอนที่มีขนาดนาโน ได้แก่ ท่อนาโนคาร์บอน แกรฟีน เป็นต้น ตัวดูดซับ (1) จะเคลือบอยู่บนส่วนปลายของแท่งคาร์บอน (2) ที่มีลักษณะเป็นทรงกระบอกตันที่มีเส้นผ่านศูนย์กลาง 0.7-2.0 มิลลิเมตร และมีความยาว 60-100 มิลลิเมตร เพื่อให้เหมาะกับการใช้งานในการใช้มือหมุน โดยแท่งคาร์บอน (2) บรรจุอยู่ในเกลียวหมุน (3) ทำหน้าที่ยึดแท่งคาร์บอน ให้มีการเคลื่อนที่ขึ้น-ลง ตามการหมุน-คลายเกลียว โดยแท่งคาร์บอน (2) และเกลียวหมุน (3) บรรจุอยู่ในท่อทรงกระบอก (4) ที่มีลักษณะเป็นท่อกลวง มีเส้นผ่านศูนย์กลาง 5-10 มิลลิเมตร ขนาดยาว 110-150 มิลลิเมตร ยึดติดกับเกลียวหมุน (3) ทำหน้าที่ป้องกันการสัมผัสที่อาจจะเกิดขึ้นกับตัวดูดซับ (1) โดยส่วนบนของท่อทรงกระบอก (4) จะมีปุ่มหมุน (5) ประกอบติดอยู่ เพื่อทำหน้าที่ควบคุมการหมุนขึ้น-ลง ของแท่งคาร์บอน (2) ส่วนปลายล่างสุดของท่อทรงกระบอก (4) มีกรวย (6) มีลักษณะเป็นทรงกรวยและกลวง ประกอบอยู่ เพื่อทำหน้าที่เป็นตัวบังคับทิศทางการเคลื่อนที่ขึ้น-ลง ของแท่งคาร์บอน (2) ที่มีตัวดูดซับ (1) เคลือบอยู่ที่ส่วนปลาย

ส่วนประกอบของคำขอรับสิทธิบัตรไทย

2

ข้อถือสิทธิ Claim

1. อุปกรณ์สำหรับการสกัดสารอินทรีย์ ประกอบด้วย ตัวดูดซับ (1) มีลักษณะเป็นฟิล์มบาง ๆ ทำหน้าที่จับสารอินทรีย์ โดยตัวดูดซับ (1) จะเคลือบอยู่บนส่วนปลายของแท่งคาร์บอน (2) ที่มีลักษณะเป็นทรงกระบอกตัน เพื่อให้เหมาะกับการใช้งานในการใช้มือหมุน โดยแท่งคาร์บอน (2) บรรจุอยู่ในเกลียวหมุน (3) ทำหน้าที่ยึดแท่งคาร์บอน ให้มีการเคลื่อนที่ขึ้น-ลง ตามการหมุน-คลายเกลียว โดยแท่งคาร์บอน (2) และเกลียวหมุน (3) บรรจุอยู่ในท่อทรงกระบอก (4) ที่มีลักษณะเป็นท่อกลวง ยึดติดกับเกลียวหมุน (3) ทำหน้าที่ป้องกันการสัมผัสที่อาจจะเกิดขึ้นกับตัวดูดซับ (1) โดยส่วนบนของท่อทรงกระบอก (4) จะมีปุ่มหมุน (5) ประกอบติดอยู่ เพื่อทำหน้าที่ควบคุมการหมุนขึ้น-ลง ของแท่งคาร์บอน (2) ส่วนปลายล่างสุดของท่อทรงกระบอก (4) มีกรวย (6) มีลักษณะเป็นทรงกรวยและกลวง ประกอบอยู่ เพื่อทำหน้าที่เป็นตัวบังคับทิศทางการเคลื่อนที่ขึ้น-ลง ของแท่งคาร์บอน (2) ที่มีตัวดูดซับ (1) เคลือบอยู่ที่ส่วนปลาย

2.อุปกรณ์สำหรับการสกัดสารอินทรีย์ ตามข้อถือสิทธิ 1 ที่ซึ่ง ตัวดูดซับ (1) เลือกได้จาก ตัวดูดซับครัยโอเจล ตัวดูดซับพอลิเมอร์ ทั้งพอลิเมอร์นำไฟฟ้าและไม่นำไฟฟ้า ได้แก่ พอลิเอทิลีน, พอลิไพโรล ตัวดูดซับอนุภาคนาโนโลหะ ได้แก่ อนุภาคนาโนเงิน อนุภาคนาโนทอง ตัวดูดซับคาร์บอนที่มีขนาดนาโน ได้แก่ ท่อนาโนคาร์บอน แกรฟีน

ส่วนประกอบของคำขอรับสิทธิบัตรไทย

3

บทสรุปการประดิษฐ์ Summary of the invention

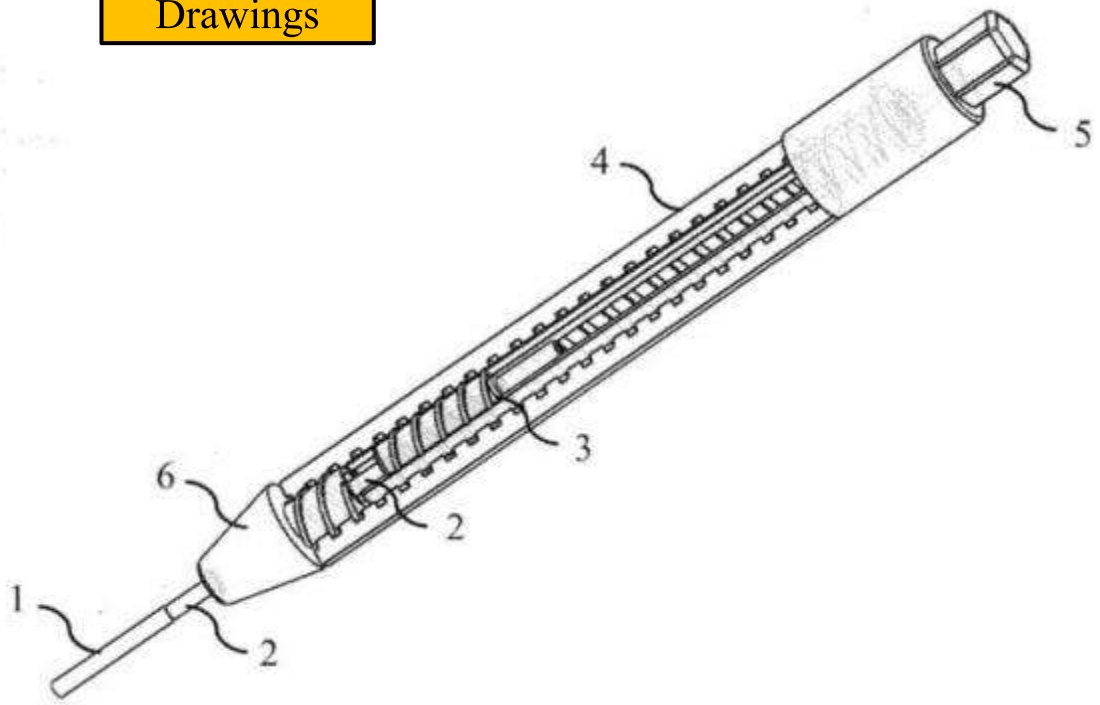
อุปกรณ์สำหรับการสกัดสารอินทรีย์ตามการประดิษฐ์นี้ ประกอบด้วย ตัวดูดซับ มีลักษณะเป็นฟิล์มบางๆ ซึ่งเคลือบอยู่บนแท่งคาร์บอน โดยแท่งคาร์บอนจะถูกยึดติดด้วยเกลียวหมุน ที่ยึดไว้กับท่อทรงกระบอกกลวง โดยเกลียวหมุนและท่อทรงกระบอกกลวง จะมีเกลียวหมุนชนิดเดียวกัน เพื่อที่จะสามารถหมุนขึ้นลงได้ โดยจะมีปุ่มหมุนอยู่ปลายด้านบนสุดของท่อทรงกระบอกกลวง เป็นตัวควบคุมการหมุนขึ้นลงของแท่งคาร์บอน ส่วนฝากรวยมีลักษณะเป็นทรงกรวยและกลวง อยู่ปลายล่างสุดของท่อทรงกระบอกกลวง

ส่วนประกอบของคำขอรับสิทธิบัตรไทย

4

หน้า 1 ของจำนวน 1 หน้า

Drawings



รูปที่ 1

How do I search?

- ✓ Keywords
- ✓ Classification
- ✓ Patent Number
- ✓ Publication Number
- ✓ Application Number
- ✓ Inventor or Applicant

Steps for patent search

Keyword Search

IPC Search

Keyword Search + IPC Search

Keyword Search

- Understand Technology
- Select and revise keywords
- Search helper

Understand Technology

- Product?
- Process?
- Formulation?
- Production?
- Machine?
- article of manufacture?
- compositions of matters?
- new useful improvement?

Understand Technology

- Patentability?
- FTO?
- Patent Landscape?

Select and revise keywords

Synonym Search

For the example

- container ,package, receptacle, parcel, pack

- machine, apparatus, equipment, device, instrument, tool

Search helper

- ✓Boolean Operators
- ✓Nested Queries wheel AND (steel OR alloy)

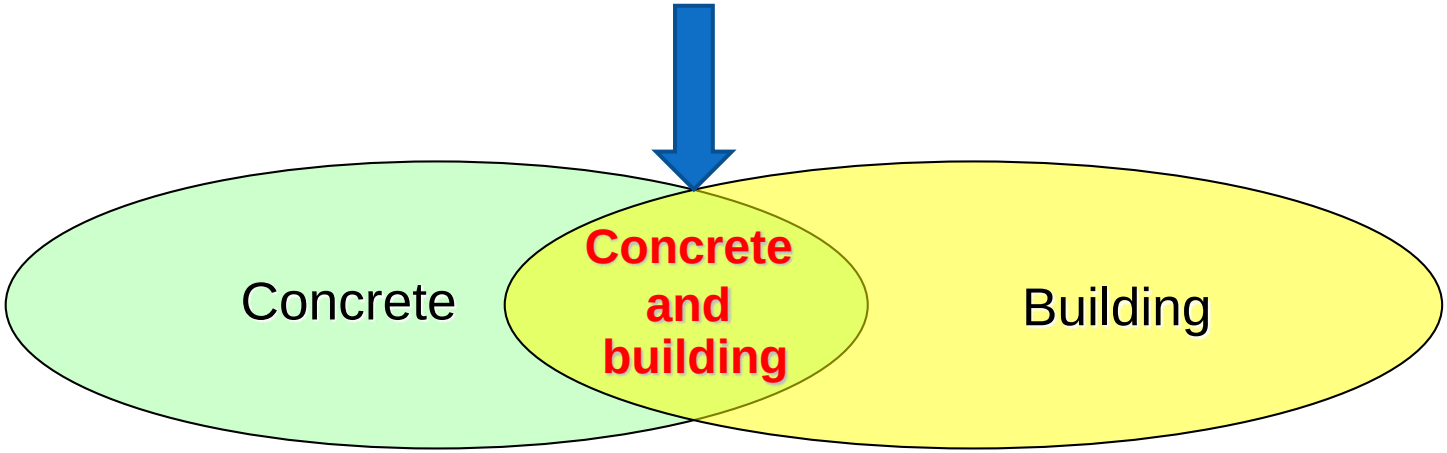
  not wheel AND steel OR alloy
- ✓Truncation/Wildcards

Boolean Operators

Combine: concrete *AND* building

Documents having both the words

"concrete" AND "building"

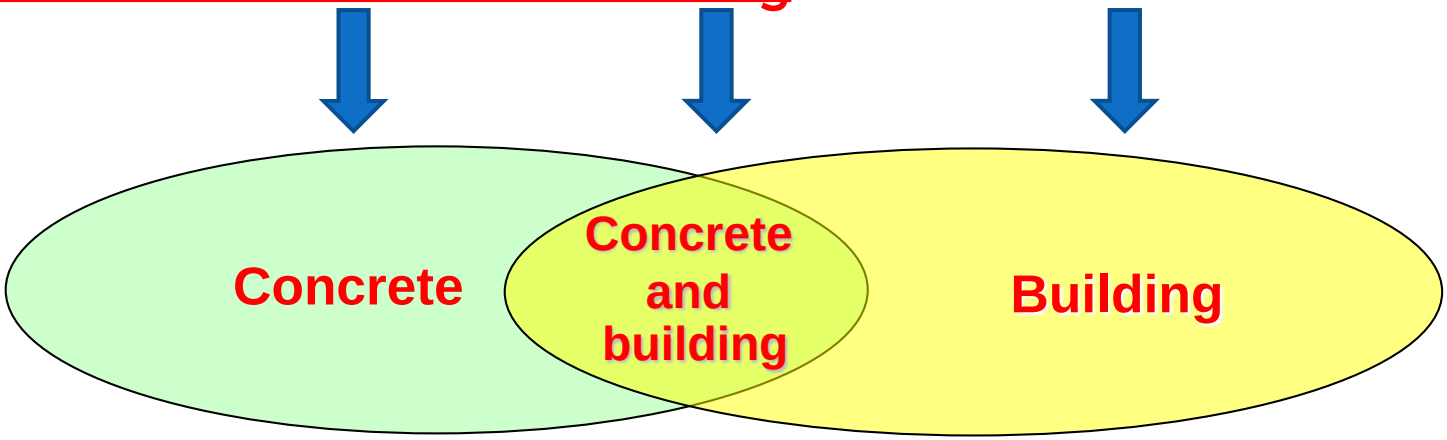


Boolean Operators

Combine: concrete *OR* building

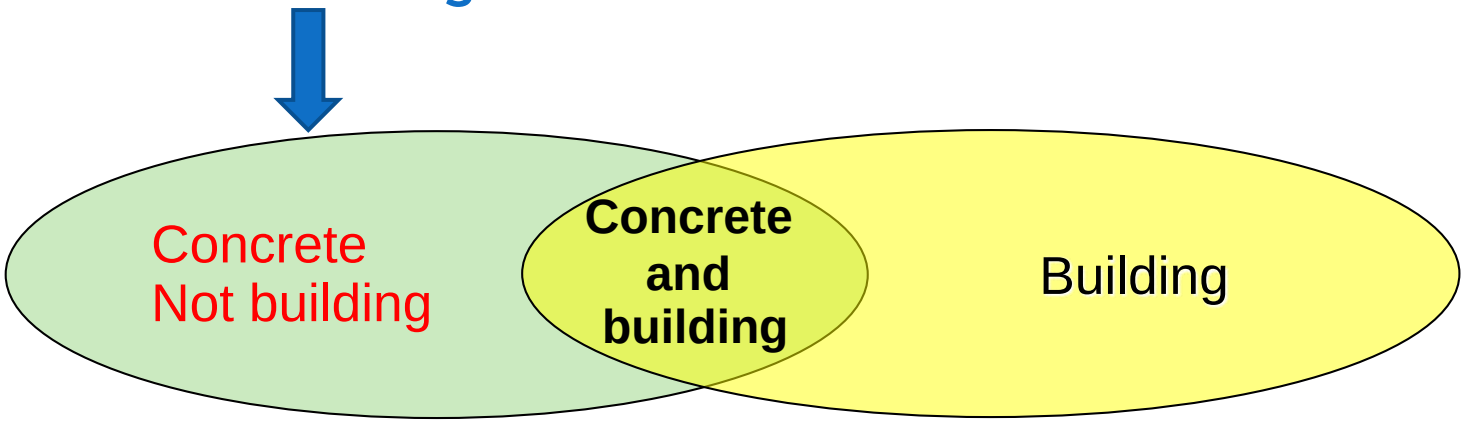
Documents having either the words

"concrete" OR "building"



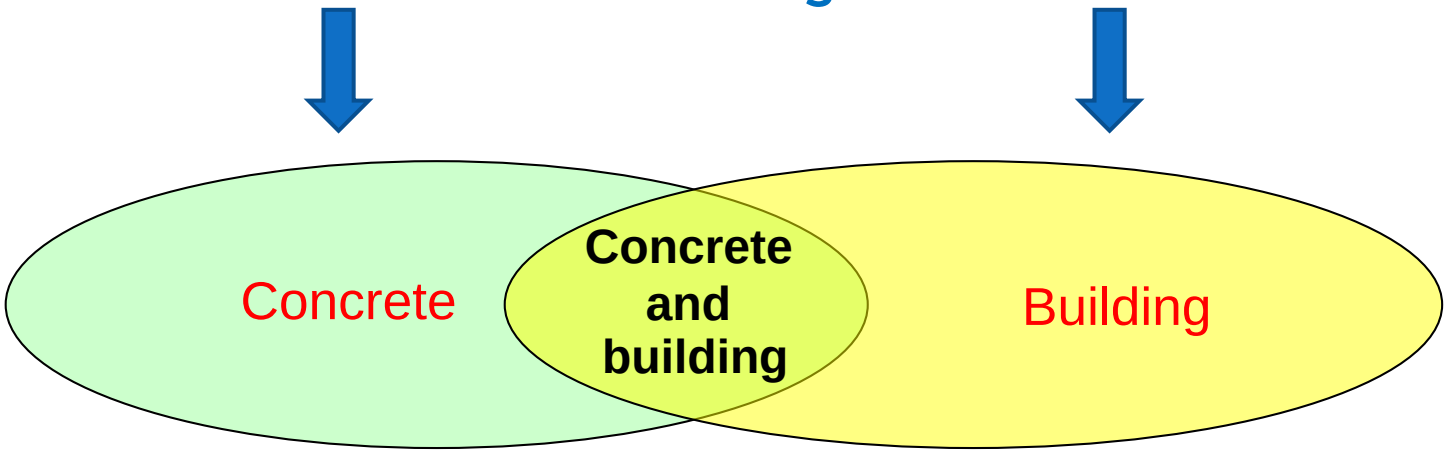
Boolean Operators

- Combine: "concrete *NOT* building"
- Documents having the words "concrete" but not "building"



Boolean Operators

- Combine: "concrete *XOR* building"
- Documents having either the words "concrete" or "building" but not both



Boolean Operators

- "Concrete *NEAR* building"
  - Documents having both the words "concrete" and "building" within a certain number (maximum up to 5 words) of words of each other
  - Useful when searching variation or phrase containing two terms e.g. "concrete building", "building made of concrete", building having various parts of concrete" etc.

Example of a keyword search

“อุปกรณ์สำหรับเก็บเกี่ยวผลไม้”

“Device for harvest fruit”

Example of a keyword search

อุปกรณ์ เครื่องมือ	เก็บเกี่ยว	ผลไม้
machine	harvest	fruit
apparatus	harvesting	fruits
equipment	reap	
device	reaping	
instrument	pick	
tool	picking	
	collect	
	collecting	

Example of a keyword search

(machine OR apparatus OR equipment OR device OR instrument OR tool) AND (harvest* OR reap* OR pick* OR collect*) AND fruit*

Results

US006886445B2

(12) **United States Patent**
Adams

(10) **Patent No.: US 6,886,445 B2**
(45) **Date of Patent: May 3, 2005**

(54) **FRUIT PICKING METHOD AND APPARATUS**

(76) Inventor: **John W. Adams**, 2106B Ave. B, Bradenton Beach, FL (US) 34217

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 437 days.

(21) Appl. No.: **10/234,674**

(22) Filed: **Sep. 3, 2002**

(65) **Prior Publication Data**

US 2003/0070409 A1 Apr. 17, 2003

Related U.S. Application Data

(60) Provisional application No. 60/317,212, filed on Sep. 5, 2001.

(51) **Int. Cl.**[7] **B05B 1/08**

(52) **U.S. Cl.** **89/1.1**; 239/11; 239/99; 124/75

(58) **Field of Search** 124/70–77; 89/1.1; 239/11, 99, 101, 102, 311

(56) **References Cited**

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6,119,955	A *	9/2000	Starr	239/11
6,216,966	B1 *	4/2001	Prendergast et al.	239/690
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Compressed–Water Pulse Generators and Applications, Kolle, J. J., 2000.*

* cited by examiner

Primary Examiner—Michael Carone
Assistant Examiner—Troy Chambers
(74) *Attorney, Agent, or Firm*—Arthur W. Fisher III

(57) **ABSTRACT**

A method and apparatus for picking and collecting fruit from fruit trees comprising a fruit picking assembly including a water cannon to selectively impact fruit to be picked with a water slug to detach the fruit from the fruit tree and a fruit collecting assembly disposed beneath the fruit picking assembly to catch the fruit detatched from the fruit tree.

26 Claims, 10 Drawing Sheets

Results

US005946896A

United States Patent [19]

Daniels

[11] **Patent Number: 5,946,896**

[45] **Date of Patent: Sep. 7, 1999**

[54] **FRUIT HARVESTING DEVICE**

[76] Inventor: **Michael Allen Daniels**, 312 Bronco Dr., Zolfo Springs, Fla. 33890

[21] Appl. No.: **09/012,811**

[22] Filed: **Jan. 23, 1998**

[51] **Int. Cl.**[6] **A01D 46/26**

[52] **U.S. Cl.** **56/328.1**; 56/329; 56/330; 56/340.1

[58] **Field of Search** 56/328.1, 329, 56/330, 331, 340.1

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,705,486	12/1972	Chen et al.	56/330
3,864,899	2/1975	Lasswell	56/328.1
4,383,400	5/1983	Mead et al.	56/233
4,418,521	12/1983	Orlando	56/330
5,074,107	12/1991	Windemuller	56/330

Primary Examiner—H. Shackelford
Attorney, Agent, or Firm—A. W. Fisher, III

[57] **ABSTRACT**

A fruit harvester comprising a plurality of oscillating fruit removal heads to selectively engage and vibrate the periphery of selected fruit-bearing sections of a fruit tree canopy thereby causing the fruit to break away from the fruit tree canopy wherein the oscillating fruit removal heads are pivotally coupled to an articulated telescoping boom mounted on a self propelled chassis including a plurality of fruit collection aprons and an internal fruit storage bin such that manipulation of the articulated telescoping boom permits engagement of isolated areas of the outer peripheral fruit-bearing sections of the fruit tree canopy by the oscillating fruit removal heads, each oscillating fruit removal head comprising a plurality of agitation wands rotatably and eccentrically coupled to a drive shaft of a motor such that rotation of the drive shaft is translated into lateral orbital motion of the oscillating fruit removal heads and a corresponding periodic motion of the isolated area of the peripheral fruit-bearing section of the fruit tree canopy with the orbital direction of the oscillating fruit removal heads in opposition to one another and the orbital radius and frequency of the oscillating fruit removal heads is modulated such that vibrations of the peripheral sections of the fruit tree canopy dampen or cancel one each other whereby the harmonic vibration between the peripheral fruit-bearing sections of the fruit tree and trunk is reduced as fruit is removed from the fruit tree canopy.

17 Claims, 6 Drawing Sheets

Results

United States Patent [19]

Crunkelton

[11] **Patent Number: 5,966,915**

[45] **Date of Patent: Oct. 19, 1999**

[54] **FRUIT HARVESTING MACHINE**

[76] Inventor: **William S. Crunkelton**, 306 N. Ruth Rd., Avon Park, Fla. 33825

[21] Appl. No.: **08/941,608**

[22] Filed: **Sep. 30, 1997**

[51] **Int. Cl.**[6] **A01D 46/24**

[52] **U.S. Cl.** **56/328.1**; 56/329; 56/330

[58] **Field of Search** 56/328.1, 327.1, 56/329, 330, 331, 340.1

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,713,282	1/1973	Baker	56/328.1
4,377,064	3/1983	Peterson	56/328.1
5,161,358	11/1992	Crunkelton	56/328.1
5,428,947	7/1995	Visser	56/328.1
5,666,795	9/1997	Wilkinson	56/328.1

Primary Examiner—Terry Lee Melius

[57] **ABSTRACT**

A fruit harvesting machine is provided which may mechanically harvest fruit from fruit trees. Means are provided for a transport assembly to carry an arm housing member which has installed thereon a plurality of arms. The arm housing member provides for repetitive displacement of the arms into and out of a canopy of the fruit trees. Means are provided for arms to deflect during insertion and withdrawal relative to the arm housing member in the event that the respective arm encounters a deflecting obstruction. Means are provided for arms to yield during insertion relative to the arm housing member in the event that the respective arm encounters an impacting obstruction. These actions, both the deflecting and the yielding, act to prevent damage to either the fruit tree or the machine. A plurality of picking fingers, each having unique engaging qualities, extend from each arm. These picking fingers allow for engagement of fruit during a withdrawal action to produce a picking pressure during subsequent withdrawal of the arm following engagement of the fruit. Means are provided to catch the severed fruit prior to contact with the earthen ground for subsequent transfer to a storage or transport container. Automation of the harvesting process allows for the most efficient operation of the harvesting machine by eliminating lag times associated with human control of such operations.

19 Claims, 17 Drawing Sheets

Steps for patent search

Keyword Search ✓

IPC Search

Keyword Search + IPC Search

IPC Search

- IPC (International Patent Classification) คือ สัญลักษณ์จำแนกการประดิษฐ์ระหว่างประเทศ
- โดยมีประโยชน์ในการบอกหมวดหมู่หรือดัชนีสำหรับการสืบค้นสิทธิบัตรเพื่อหากลุ่มเทคโนโลยีที่ต้องการ
- ดูรายละเอียดได้จาก http://www.wipo.int/classifications/ipc/en/index.html

IPC

- A Human Necessities สิ่งที่จำเป็นสำหรับมนุษย์
- B Performing Operations, Transporting การปฏิบัติ การดำเนินการ การขนส่ง
- C Chemistry, Metallurgy เคมี วิธีการแยกโลหะออกจากแร่
- D Textiles, paper เสื้อผ้า กระดาษ
- E Fixed Constructions การซ่อมแซม การก่อสร้าง
- F Mechanical Engineering, Lighting, Heating, Weapons, Blasting วิศวกรรมเครื่องกล เกี่ยวกับแสงสว่าง การทำความร้อน คลังแสง การระเบิด
- G Physics ฟิสิกส์
- H Electricity กระแสไฟฟ้า

US005966915A

United States Patent [19]

Crunkelton

[11] Patent Number: 5,966,915

[45] Date of Patent: Oct. 19, 1999

[54] **FRUIT HARVESTING MACHINE**

[76] Inventor: **William S. Crunkelton**, 306 N. Ruth Rd., Avon Park, Fla. 33825

[21] Appl. No.: **08/941,608**

[22] Filed: **Sep. 30, 1997**

[51] **Int. Cl.**[6] **A01D 46/24**

[52] **U.S. Cl.** **56/328.1**; 56/329; 56/330

[58] **Field of Search** 56/328.1, 327.1, 56/329, 330, 331, 340.1

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,713,282	1/1973	Baker	56/328.1
4,377,064	3/1983	Peterson	56/328.1
5,161,358	11/1992	Crunkelton	56/328.1
5,428,947	7/1995	Visser	56/328.1
5,666,795	9/1997	Wilkinson	56/328.1

Primary Examiner—Terry Lee Melius

[57] **ABSTRACT**

A fruit harvesting machine is provided which may mechanically harvest fruit from fruit trees. Means are provided for a transport assembly to carry an arm housing member which has installed thereon a plurality of arms. The arm housing member provides for repetitive displacement of the arms into and out of a canopy of the fruit trees. Means are provided for arms to deflect during insertion and withdrawal relative to the arm housing member in the event that the respective arm encounters a deflecting obstruction. Means are provided for arms to yield during insertion relative to the arm housing member in the event that the respective arm encounters an impacting obstruction. These actions, both the deflecting and the yielding, act to prevent damage to either the fruit tree or the machine. A plurality of picking fingers, each having unique engaging qualities, extend from each arm. These picking fingers allow for engagement of fruit during a withdrawal action to produce a picking pressure during subsequent withdrawal of the arm following engagement of the fruit. Means are provided to catch the severed fruit prior to contact with the earthen ground for subsequent transfer to a storage or transport container. Automation of the harvesting process allows for the most efficient operation of the harvesting machine by eliminating lag times associated with human control of such operations.

19 Claims, 17 Drawing Sheets

(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 2 596 965 A1**

B60C 11/00

(12) **EUROPEAN PATENT APPLICATION**

(51) Int Cl.:

B60C 11/00 (2006.01)

(43) Date of publication:
29.05.2013 Bulletin 2013/22

(21) Application number: **12193786.6**

(22) Date of filing: **22.11.2012**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(30) Priority: **22.11.2011 US 201113302328**

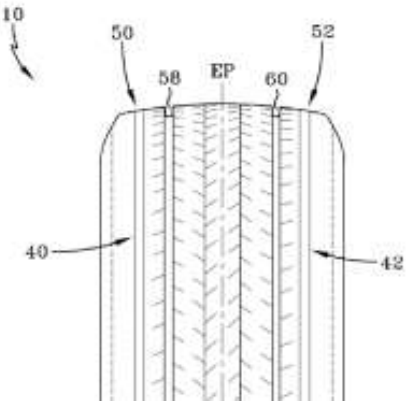
(71) Applicant: **The Goodyear Tire & Rubber Company**
Akron, OH 44316-0001 (US)

(72) Inventors:
- **Sandstrom, Paul Harry**
  Cuyahoga Falls, OH Ohio 44223 (US)
- **Lipcsik, Robert Neal**
  Brecksville, OH Ohio 44141 (US)

(74) Representative: **Kutsch, Bernd**
Goodyear S.A.
Patent Department,
Avenue Gordon Smith
7750 Colmar-Berg (LU)

(54) **Stiffness enhanced tread**

(57) A tire comprising a tread base comprising a first material and a tread cap comprising a second material is disclosed. The tread cap is disposed radially outward of at least a part of the tread base and configured for operationally coming into contact with a ground surface. At least one annular ring (40, 42) comprising a third material is provided, the ring (40, 42) being disposed at least partially within the tread cap and extending radially away from the tread base. The third material provides an electrical conductivity path to the ground surface. Either the ring (40, 42) has a stiffness in the radial direction greater than stiffnesses in the circumferential and lateral directions and the third material has a lower hysteresis than the second material or than the second and the first material, or the second and the third material has a different stiffness property than the first material.



US006096215A

United States Patent [19]

Fang

[11] Patent Number: 6,096,215

[45] Date of Patent: Aug. 1, 2000

[54] **LIQUID BIO-NUTRIENTS FOR USE IN BIOLOGICAL WASTEWATER TREATMENT PROCESSES AND METHOD FOR USING THEM**

[75] Inventor: **Albert Yi-Hung Fang**, Douglasville, Ga.

[73] Assignee: **Fang Chemicals, Inc.**, Carrolton, Ga.

[21] Appl. No.: **09/339,827**

[22] Filed: **Jun. 25, 1999**

[51] **Int. Cl.**[7] **C02F 3/00**

[52] **U.S. Cl.** **210/610**; 210/614; 210/631; 210/928; 252/181

[58] **Field of Search** 210/610, 611, 210/614, 631, 739, 928; 252/180, 181; 435/277, 278; 424/605, 604, 682

[56] **References Cited**

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5,411,889	5/1995	Hoots et al.	436/6
5,626,754	5/1997	Ballnus	210/610
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5,885,950	2/1999	Dale et al.	210/610
5,958,241	9/1999	DeBenedetto et al.	210/611
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Wastewater Biology: The Life Processes, p. 15–64, a special publication prepared by Task Force on Wastewater Biology: The Life Processes under the direction of the Operations and Maintenance Subcommittee of the Technical Practice Committee, p. cm., ISBN 1–881369–93–5, copyright 1994 by the Water Environment Federation, Alexandria, VA 22314–1994 USA.

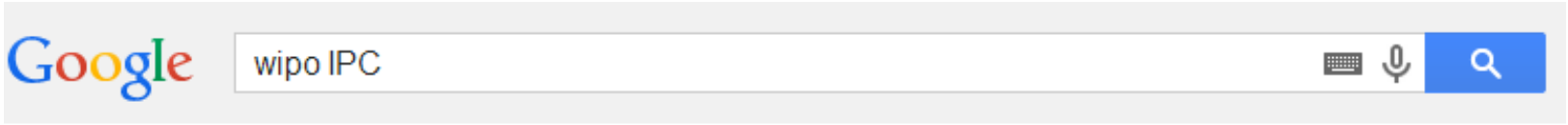
Primary Examiner—Thomas G. Wyse
Attorney, Agent, or Firm—Finnegan, Henderson, Farabow, Garrett & Dunner

[57] **ABSTRACT**

A composition for treating nutrient deficient wastewater from a paper-making process, which eliminates the use of conventional treatments and efficiently provides essential nutrients for biologically degrading organic pollutants, comprising urea and phosphoric acid. A method for treating nitrogen and phosphorus deficient wastewater with a treatment composition of urea and phosphoric acid in varying concentrations depending on the nitrogen and phosphorus content of the wastewater.

22 Claims, No Drawings

IPC Search



เว็บ รูปภาพ ข่าวสาร แผนที่ วิดีโอ เพิ่มเติม เครื่องมือค้นหา

ผลการค้นหาประมาณ 4,890,000 รายการ (0.25 วินาที)

International Patent Classification (IPC) - WIPO

www.wipo.int/classifications/ipc/en/ ▾ แปลหน้านี้

Upon request, WIPO provides intensive training to the staff of national or regional industrial property offices in the use of the IPC for classifying and searching.

คุณเคยไปที่หน้าเว็บนี้ 2 ครั้ง ไปครั้งล่าสุดเมื่อ 26/8/2014

Browse and search the IPC

Last modified: 15.08.2014. IPCPUB v5.1. CPC version ...

Download area

This area includes: IPC master files and their by-products as ...

General Information on the IPC

General Information on the International Patent ...

Guide to the IPC

hereinafter referred to as "the Classification" or "the IPC". 2 ...

Frequently Asked Questions

The acronym IPC stands for International Patent ...

IPC-2014.01 files and data

IPC Scheme static files (split) at Subclass level. These files were ...

ผลการค้นหาเพิ่มเติมจาก wipo.int »

IPC Search

International Patent Classification (IPC)

The International Patent Classification (IPC), established by the Strasbourg Agreement 1971, provides for a hierarchical system of language independent symbols for the classification of patents and utility models according to the different areas of technology to which they pertain. A new version of the IPC enters into force each year on January 1. Find out more about the IPC.

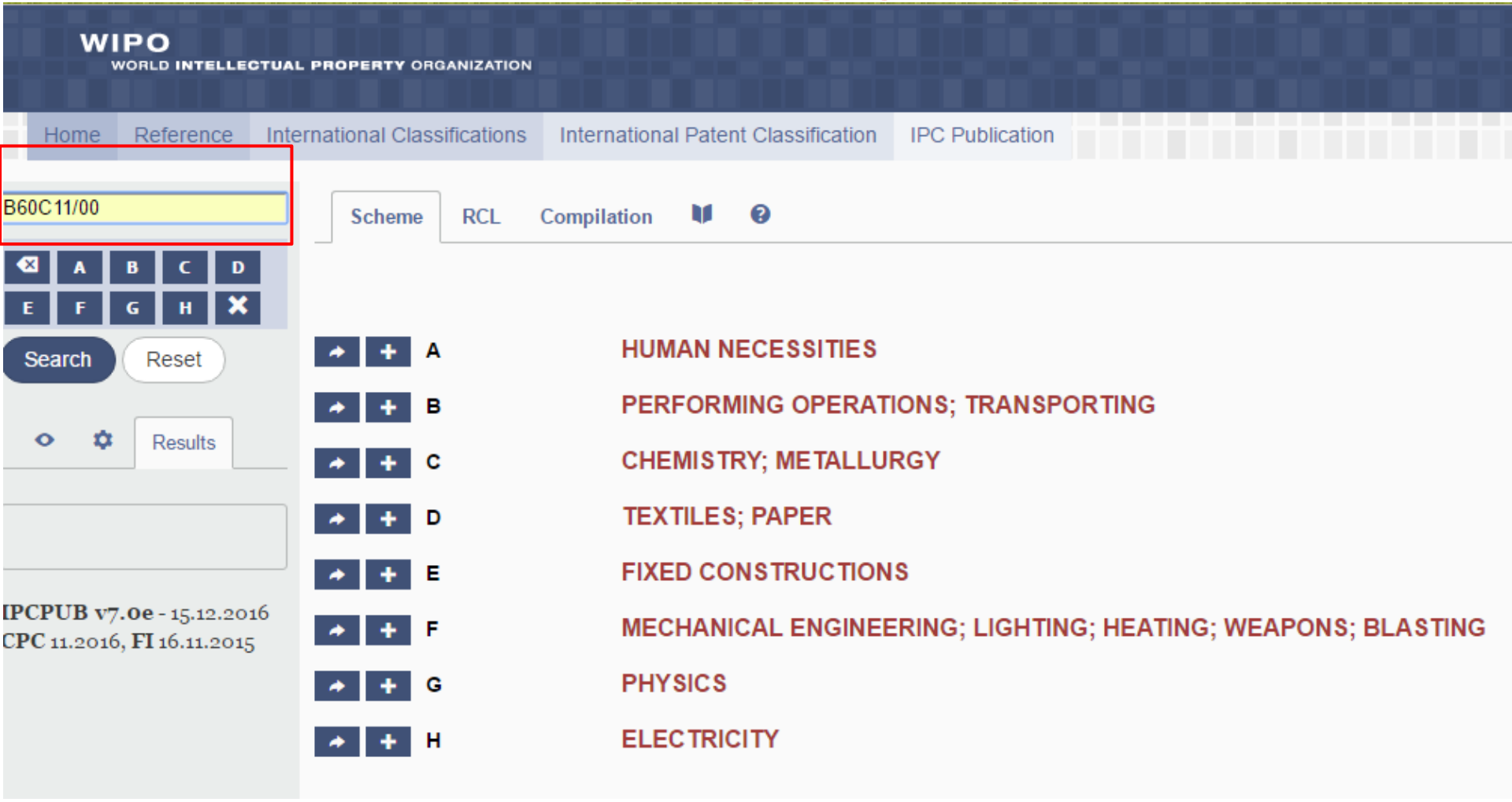
Resources

- General information on the IPC
- Guide to the IPC PDF
- IPC statistics
- Frequently Asked Questions

Access the International Patent Classification

Access the Former Publication Platform

IPC Search


WIPO
WORLD INTELLECTUAL PROPERTY ORGANIZATION
Home
Reference
International Classifications
International Patent Classification
IPC Publication
B60C11/00
A
B
C
D
E
F
G
H
Search
Reset
Results
IPCPUB v7.0e - 15.12.2016
CPC 11.2016, FI 16.11.2015
Scheme
RCL
Compilation
A HUMAN NECESSITIES
B PERFORMING OPERATIONS; TRANSPORTING
C CHEMISTRY; METALLURGY
D TEXTILES; PAPER
E FIXED CONSTRUCTIONS
F MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
G PHYSICS
H ELECTRICITY

IPC Search

A01D 46/24

Results

Ordered by relevance:

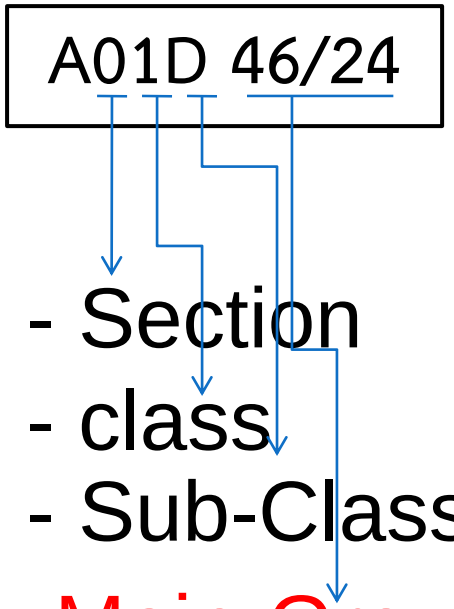
A01D 46/24

IPCPUB v7.3 - 19.09.2017
CPC 08.2017, FI 16.11.2015

Scheme | RCL | Compilation | Catchwords

−	**A01D 46/00**	**Picking of fruits, vegetables, hops, or the like; Devices for shaking trees or shrubs [2006.01]**
		Note(s) **[7]** Group A01D 46/30 takes precedence over groups A01D 46/02-A01D 46/28
	A01D 46/02	• of hops **[2006.01]**
	A01D 46/04	• of tea **[2006.01]**
	A01D 46/06	• of coffee **[2006.01]**
−	A01D 46/08	• of cotton **[2006.01]**
	A01D 46/10	• • pneumatically **[2006.01]**
	A01D 46/12	• • using boll-from-plant strippers **[2006.01]**
−	A01D 46/14	• • using lint-from-plant pickers **[2006.01]**
−	A01D 46/16	• • • using rotary or oscillating spindles **[2006.01]**
	A01D 46/18	• • • • mounted on rotary carrier **[2006.01]**
	A01D 46/20	• Platforms with lifting and lowering devices **[2006.01]**
	A01D 46/22	• Baskets or bags attachable to the picker **[2006.01]**
−	**A01D 46/24**	• Devices for picking apples or like fruit (A01D 46/26 takes precedence) **[2006.01]**
	A01D 46/247	• • Manually operated fruit-picking tools (A01D 46/253 takes precedence) **[2006.01]**
	A01D 46/253	• • Portable motorised fruit pickers **[2006.01]**
	A01D 46/26	• Devices for shaking trees or shrubs; Fruit catching devices to be used therewith (A01D 46/28 takes precedence) **[2006.01]**
	A01D 46/28	• Vintaging machines, i.e. grape harvesting machines **[2006.01]**
	A01D 46/30	• Robotic devices for individually picking crops **[2006.01]**
	A01D 47/00	**Headers [2006.01]**
	A01D 51/00	**Apparatus for gathering together crops spread on the soil, e.g. apples, beets, nuts, potatoes [2006.01]**
		Components of harvesters or mowers for grass or cereals [7]
−	**A01D 57/00**	**Delivering mechanisms for harvesters or mowers [2006.01]**
−	A01D 57/01	• Devices for leading crops to the mowing apparatus **[2006.01]**
−	A01D 57/02	• • using reels **[2006.01]**
	A01D 57/03	• • • with supplementary controlled movement of the crop-engaging members, e.g. of the tines **[2006.01]**

IPC Search



- Section A = Human Necessities
- class A01 = AGRICULTURE
- Sub-Class A01D = HARVESTING

-Main-Group A01D 46/24 = Devices for picking apples or like fruit

Link web for search IPC: http://web2.wipo.int/ipcpub/#refresh=page

Steps for patent search

Keyword Search ✓

IPC Search ✓

Keyword Search + IPC Search

Example keyword + IPC Search

(machine OR apparatus OR equipment OR device OR instrument OR tool) AND (harvest* OR reap* OR pick* OR collect*) AND fruit* AND A01D 46/24

Example keyword + IPC Search

(machine OR apparatus OR equipment OR device OR instrument OR tool) AND (harvest* OR reap* OR pick* OR collect*) AND fruit* AND (A01D 46/24 OR A01D46/26)

Example keyword + IPC Search

(machine OR apparatus OR equipment OR device OR instrument OR tool) AND (harvest* OR reap* OR pick* OR collect*) AND fruit* AND A01D 46/24 AND A01D46/26)

Patent Search Tools

Patent Office Databases

- esp@cenet (EPO)
- USPTO
- JPO IPDL
- DIP

Free software:

Commercial software:

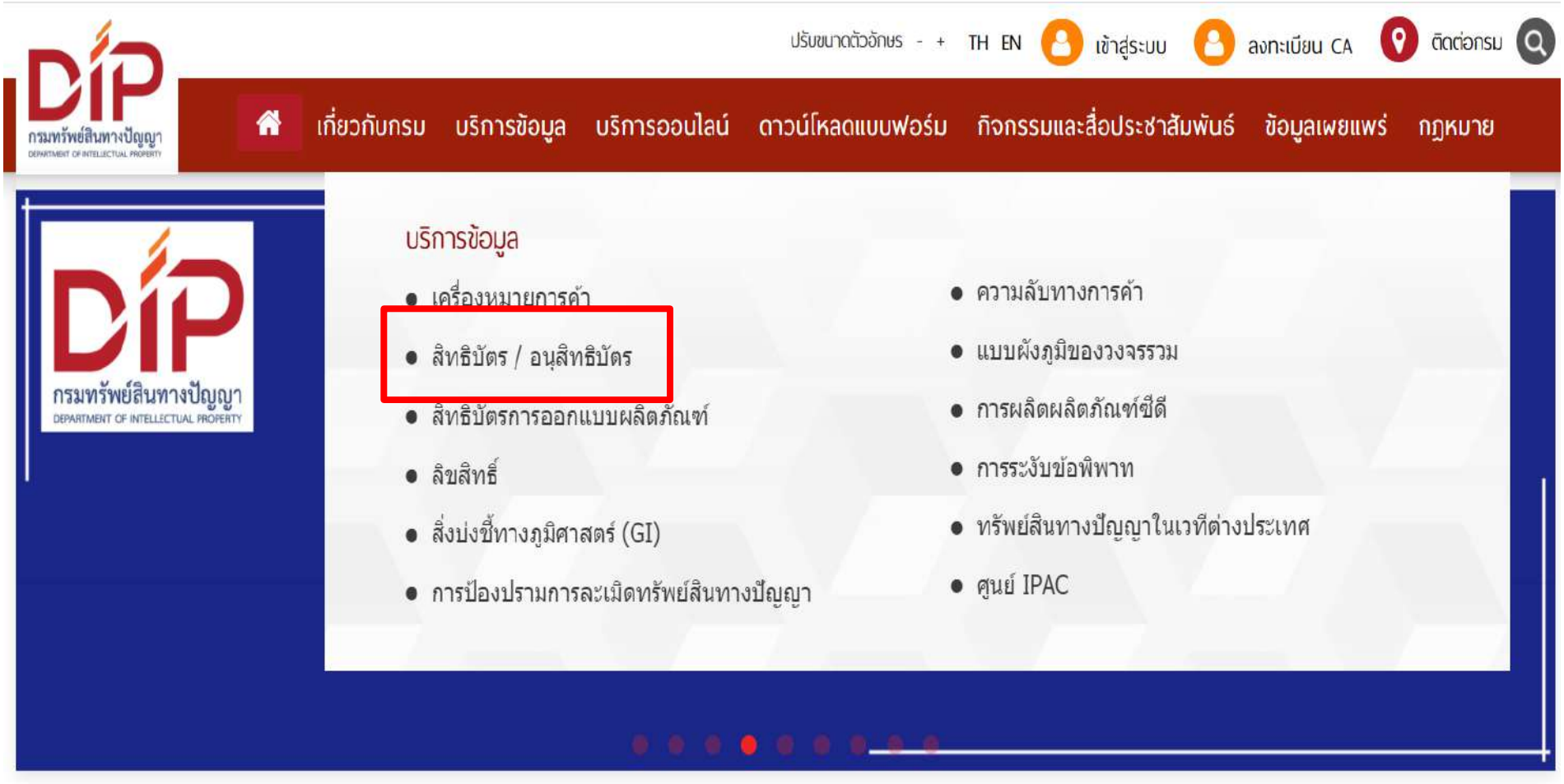
- Derwent Innovation, TotalPatent

Patent Databases: Collections

- WIPO (PATENTSCOPE® search services)
  - WO
  - AP, AR, CU, KR, MX, SG, VN, ZA, etc.
- EPO (esp@net)
  - EP, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FJ, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, RU, SE, SI, SK, TR, WO, etc.
- JPO IPDL
  - Japan (JP)
- USPTO
  - USA

DIP

DIP


ปรับขนาดตัวอักษร - +
TH EN
เข้าสู่ระบบ
ลงทะเบียน CA
ติดต่อกรม
เกี่ยวกับกรม
บริการข้อมูล
บริการออนไลน์
ดาวน์โหลดแบบฟอร์ม
กิจกรรมและสื่อประชาสัมพันธ์
ข้อมูลเผยแพร่
กฎหมาย
กรมทรัพย์สินทางปัญญา
DEPARTMENT OF INTELLECTUAL PROPERTY
บริการข้อมูล
เครื่องหมายการค้า
สิทธิบัตร / อนุสิทธิบัตร
สิทธิบัตรการออกแบบผลิตภัณฑ์
ลิขสิทธิ์
สิ่งบ่งชี้ทางภูมิศาสตร์ (GI)
การป้องปรามการละเมิดทรัพย์สินทางปัญญา
ความลับทางการค้า
แบบผังภูมิของวงจรรวม
การผลิตผลิตภัณฑ์ซีดี
การระงับข้อพิพาท
ทรัพย์สินทางปัญญาในเวทีต่างประเทศ
ศูนย์ IPAC

DIP

Patent Tools and Links (เครื่องมือสิทธิบัตร และลิงค์ที่เกี่ยวข้อง)

ระบบสืบค้นสิทธิบัตร / อนุสิทธิบัตร

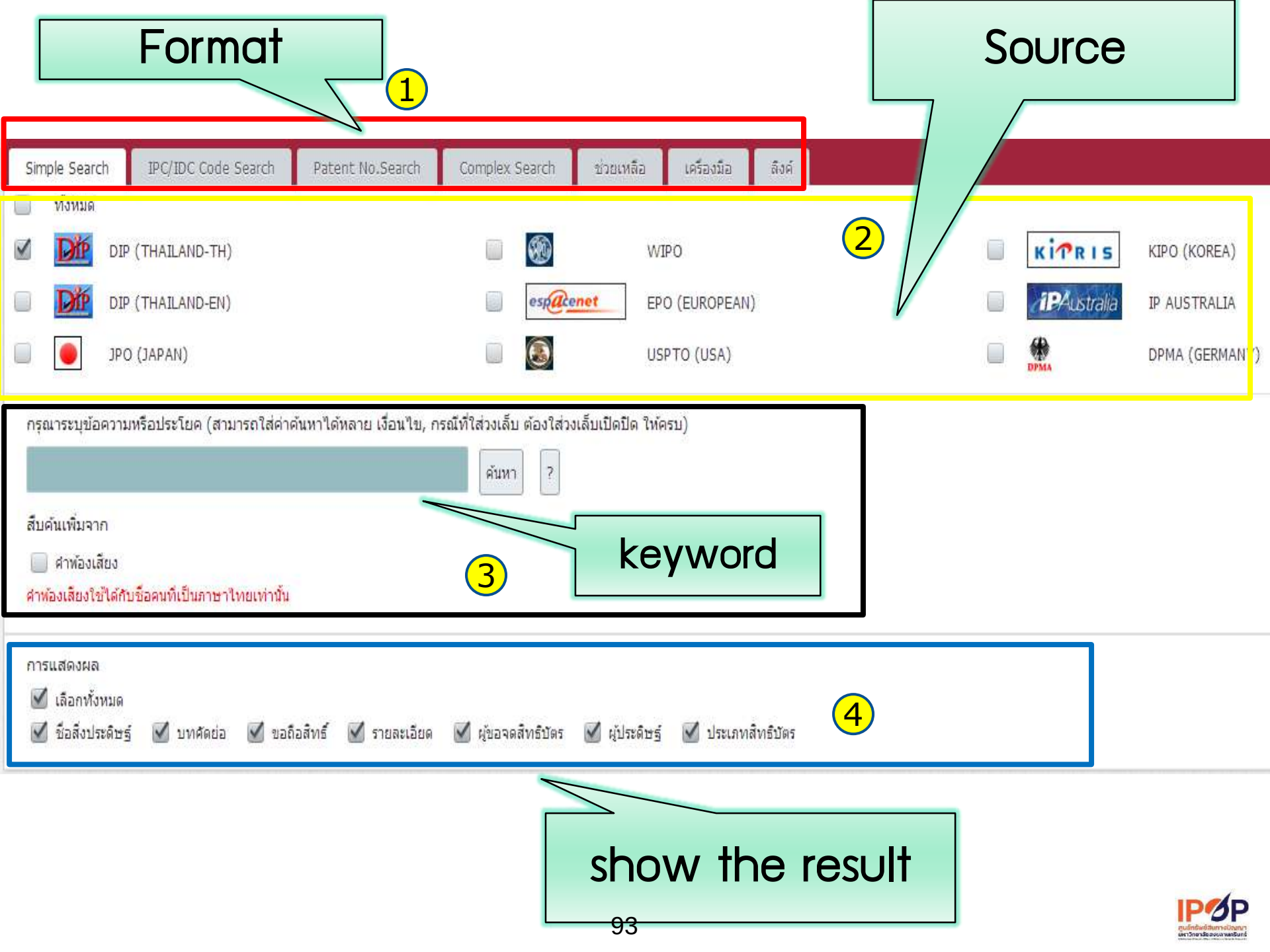
การขอรับสิทธิบัตรระหว่างประเทศภายใต้สนธิสัญญา PCT

คู่มือตรวจสอบคำขอรับสิทธิบัตรการประดิษฐ์และอนุสิทธิบัตร ฉบับปี 2562

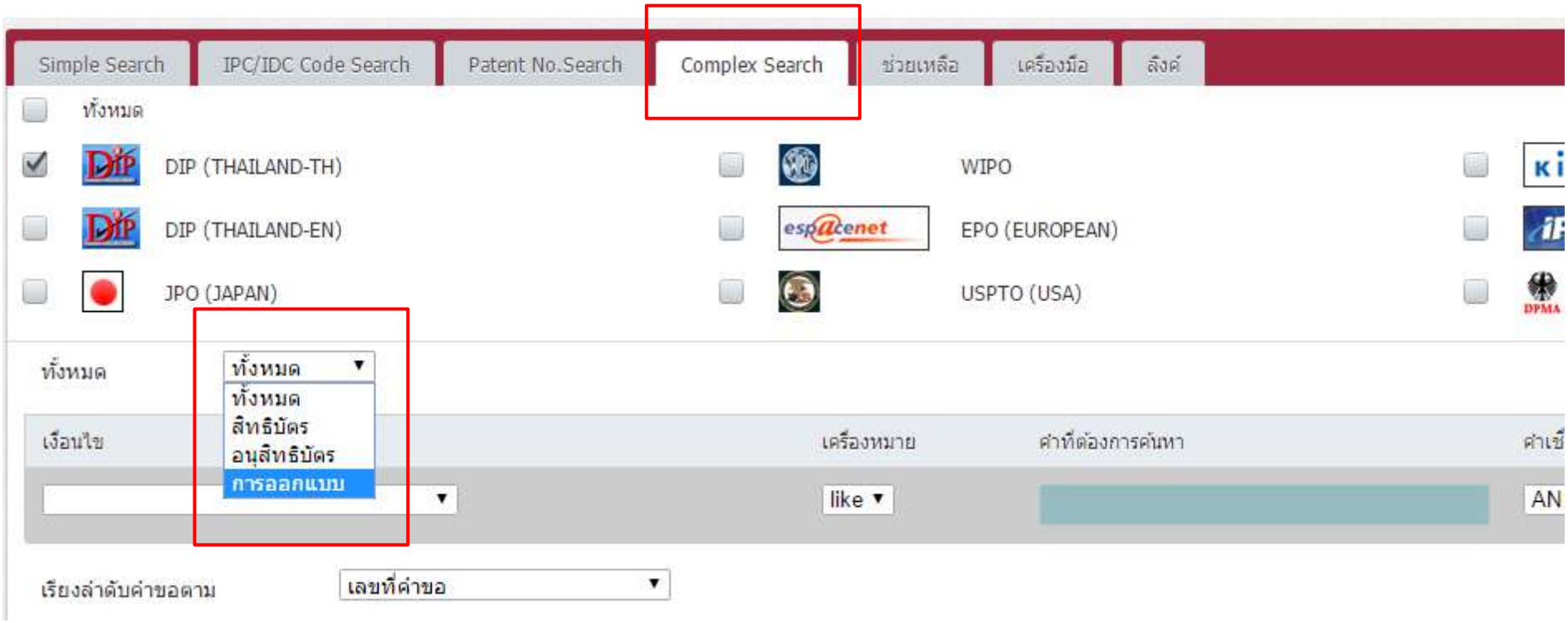
คู่มือตรวจสอบคำขอรับสิทธิบัตรการประดิษฐ์และอนุสิทธิบัตร(เฉพาะด้านเคมี และ เภสัชภัณฑ์)

รายการประกาศโฆษณาสิทธิบัตรยา ตั้งแต่ปี 2542

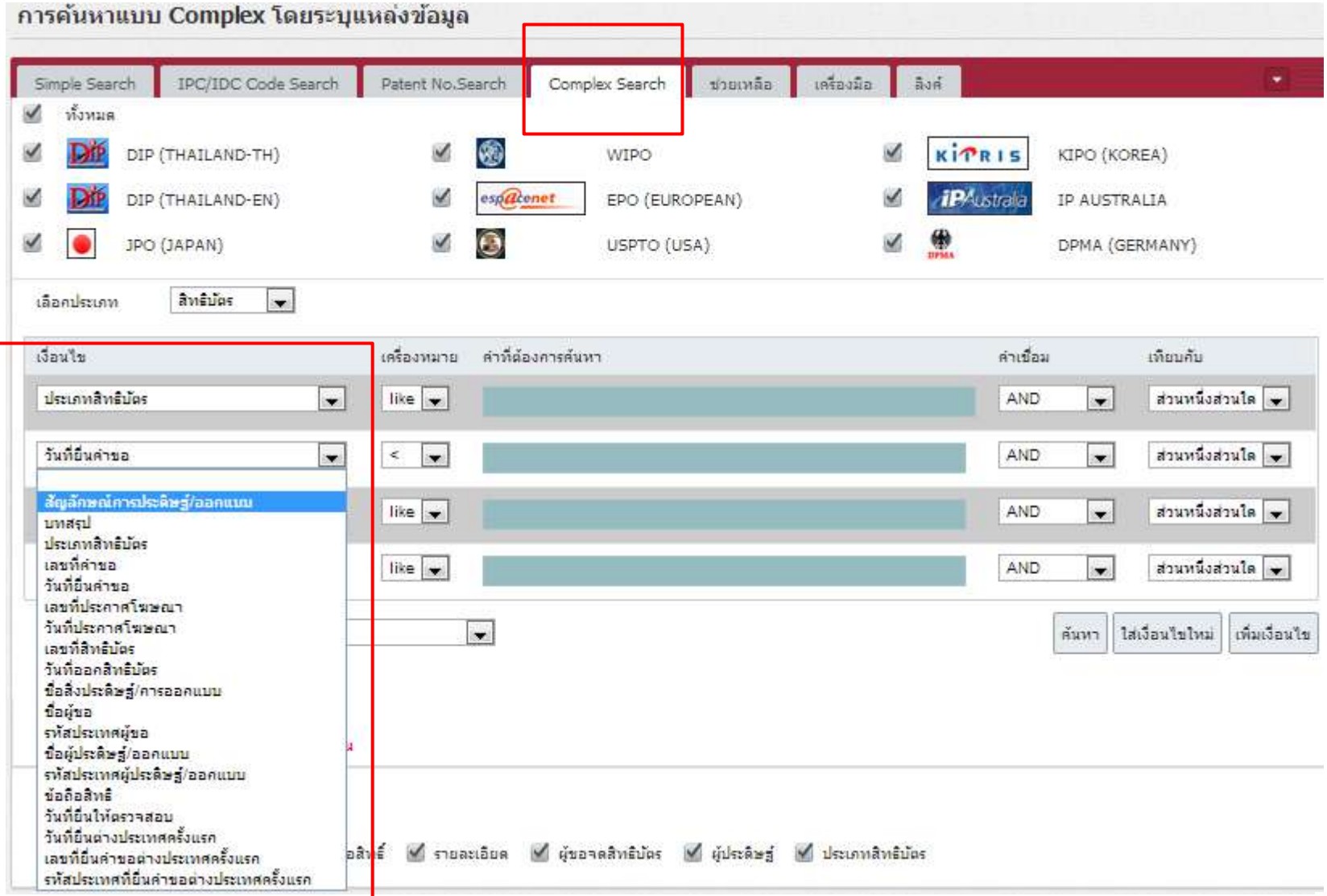
การขอรับสิทธิบัตร/อนุสิทธิบัตรผ่านทาง Internet (e-Filing)


Format
1
Source
Simple Search
IPC/IDC Code Search
Patent No.Search
Complex Search
ช่วยเหลือ
เครื่องมือ
ลิงค์
ทั้งหมด
DIP (THAILAND-TH)
DIP (THAILAND-EN)
JPO (JAPAN)
WIPO
EPO (EUROPEAN)
USPTO (USA)
KIPO (KOREA)
IP AUSTRALIA
DPMA (GERMAN
2
กรุณาระบุข้อความหรือประโยค (สามารถใส่ค่าค้นหาได้หลาย เงื่อนไข, กรณีที่ใส่วงเล็บ ต้องใส่วงเล็บเปิดปิด ให้ครบ)
ค้นหา
?
สืบค้นเพิ่มจาก
คำพ้องเสียง
คำพ้องเสียงใช้ได้กับชื่อคนที่เป็นภาษาไทยเท่านั้น
3
keyword
การแสดงผล
เลือกทั้งหมด
ชื่อสิ่งประดิษฐ์
บทคัดย่อ
ขอถือสิทธิ์
รายละเอียด
ผู้ขอจดสิทธิบัตร
ผู้ประดิษฐ์
ประเภทสิทธิบัตร
4
show the result

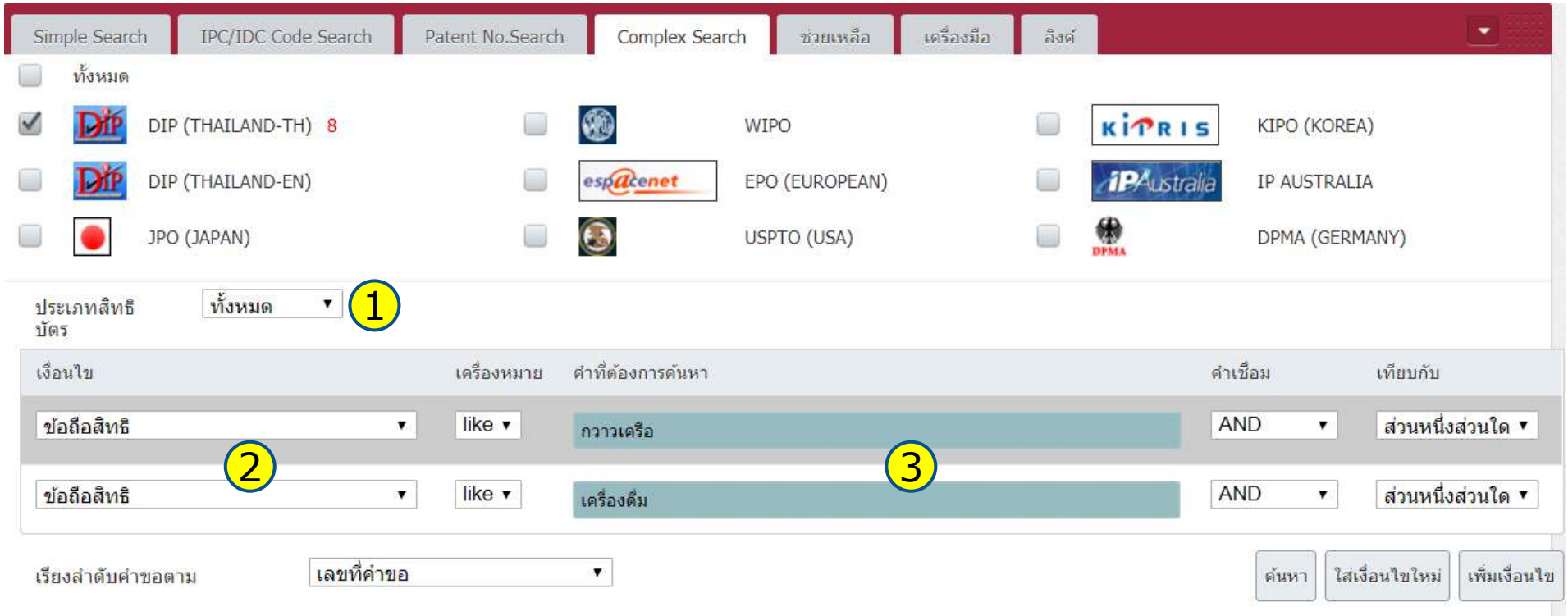
Complex Search



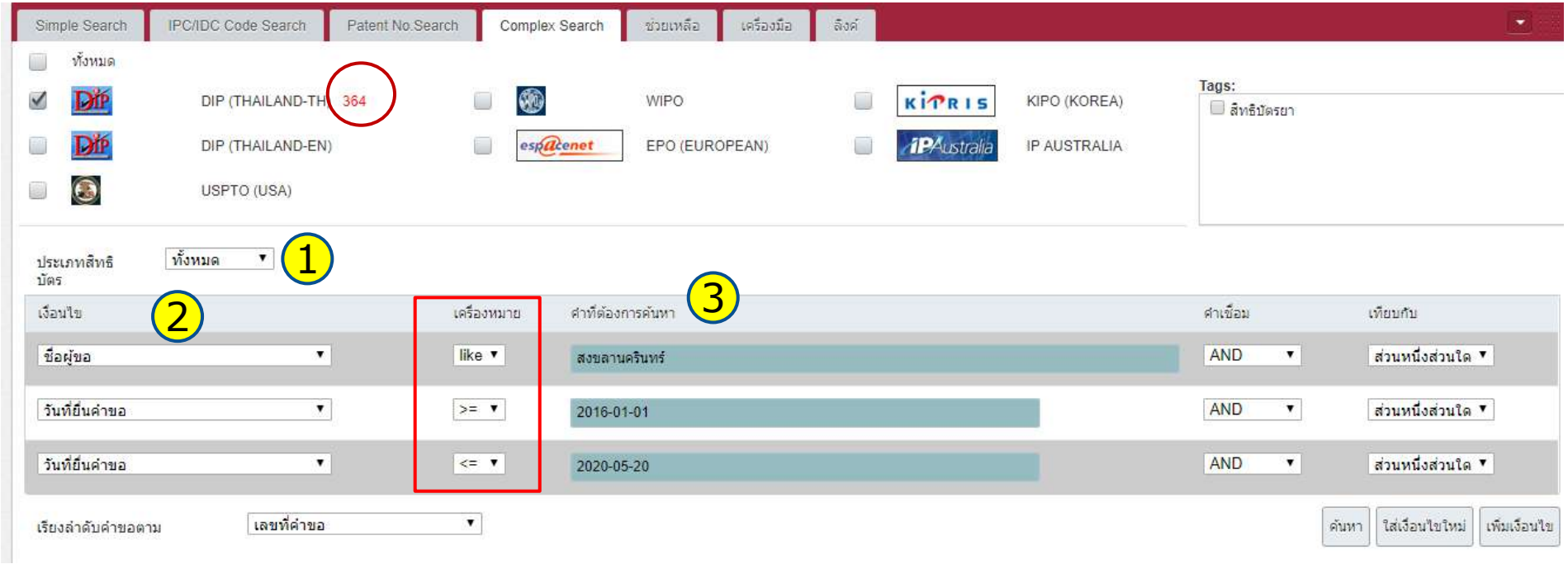
Complex Search



Ex1 สูตรเครื่องดื่มที่มีส่วนผสมกวาวเครือ



Ex2 หาจำนวนของสิทธิบัตร อนุสิทธิบัตร และ สิทธิบัตรออกแบบผลิตภัณฑ์ของมหาวิทยาลัยสงขลานครินทร์ ย้อนหลัง 5 ปี (2016-2020)

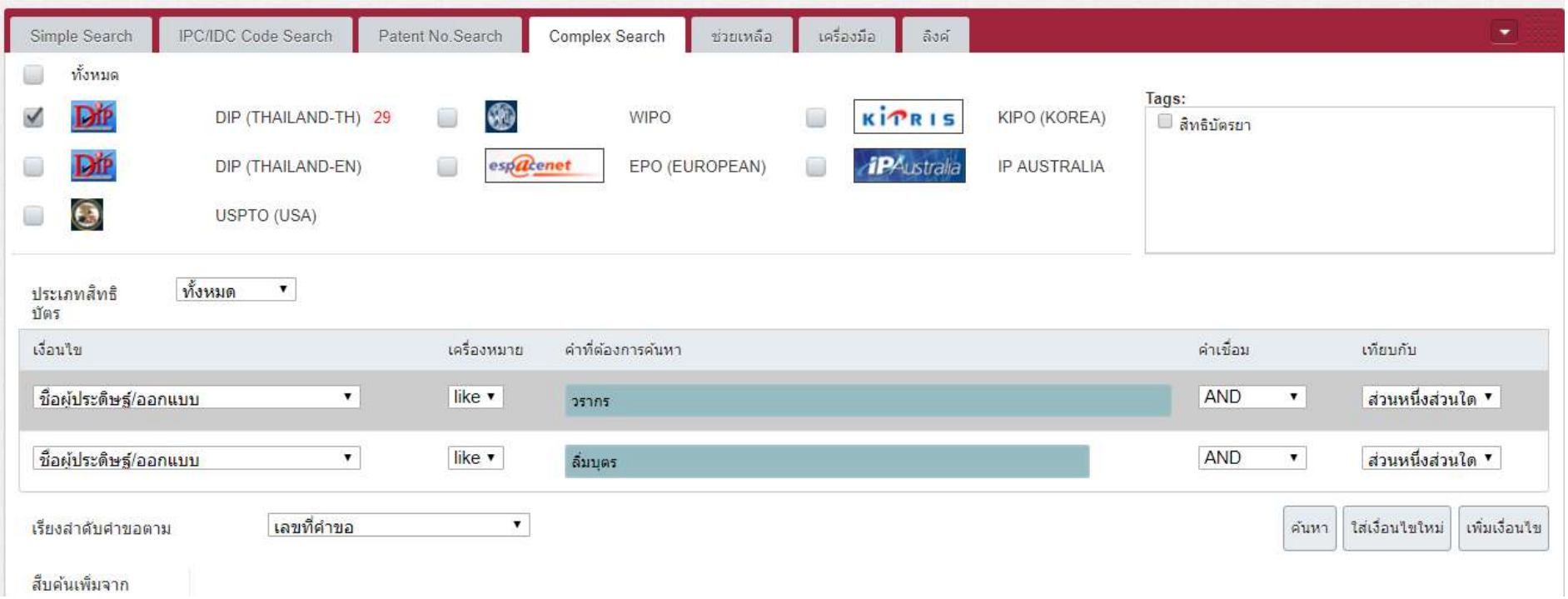


Ex2 หาจำนวนของสิทธิบัตร อนุสิทธิบัตร และ สิทธิบัตรออกแบบผลิตภัณฑ์ของมหาวิทยาลัยสงขลานครินทร์ ย้อนหลัง 5 ปี (2016-2020)

1 ▼ NEXT >>>>

1	2003000542	สิทธิบัตรยังไม่ประกาศโฆษณา	มหาวิทยาลัยสงขลานครินทร์	นายทรงชัย ฐิตโสมกุล, นางสุกัญญา เธียรวิวัฒน์
2	2003000541	สิทธิบัตรยังไม่ประกาศโฆษณา	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเจนจิรา สายชนะพันธ์, นางสาวชมพูนุท แก้วจุลกาญจน์, นายเกียรติศักดิ์ พรหมสุวรรณ์
3	2003000540	สิทธิบัตรยังไม่ประกาศโฆษณา	มหาวิทยาลัยสงขลานครินทร์	นางปิยะรัตน์ บุญแสวง, นายอรัญ หันพงศ์กิตติกุล, นางสาวนฤมล รักไชย
4	2003000539	สิทธิบัตรยังไม่ประกาศโฆษณา	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวศิรประภา รอดสุด
5	2003000536	สิทธิบัตรยังไม่ประกาศโฆษณา	มหาวิทยาลัยสงขลานครินทร์	นายสุทธวัฒน์ เบญจกุล, นายกษิเดช ฉันทกุล
6	2003000534	สิทธิบัตรยังไม่ประกาศโฆษณา	มหาวิทยาลัยสงขลานครินทร์	นายต่อศักดิ์ กิตติกรณ์, นางสาววันทนีย์ ไชยวงศ์
7	2003000422	สิทธิบัตรยังไม่ประกาศโฆษณา	มหาวิทยาลัยสงขลานครินทร์	นางสาวมัทนา ฟังคะมโณ, นายรุ่งโรจน์ เกาะคู, นางสาวเสาวณีย์ สิงห์สโรทัย, นายกฤษฎา พัชรสิทธิ์
8	2003000348	สิทธิบัตรยังไม่ประกาศโฆษณา	สำนักงานพัฒนาการวิจัยการเกษตร (องค์การมหาชน), มหาวิทยาลัยสงขลานครินทร์	รศ.ดร.จุไรทิพย์ หวังสินทวีกุล, นางสาวนฤมล เส็งนนท์, รองศาสตราจารย์นัฏฐา แก้วนพรัตน์, ผศ.ดร.วิชาญ เกตุจินดา, ผศ.ดร.สมชาย ศรีวิริยะจันทร์, รองศาสตราจารย์สมสมร ชิตตระการ, ผศ.ดร.วันดี อุดมอักษร, ดร.สุพัตรา ลิ่มสุวรรณโชติ
9	2003000347	สิทธิบัตรยังไม่ประกาศโฆษณา	สำนักงานพัฒนาการวิจัยการเกษตร (องค์การมหาชน), มหาวิทยาลัยสงขลานครินทร์	รศ.ดร.จุไรทิพย์ หวังสินทวีกุล, นางสาวนฤมล เส็งนนท์, รองศาสตราจารย์นัฏฐา แก้วนพรัตน์, ผศ.ดร.วิชาญ เกตุจินดา, ผศ.ดร.สมชาย ศรีวิริยะจันทร์, รองศาสตราจารย์สมสมร ชิตตระการ, ผศ.ดร.วันดี อุดมอักษร, ดร.สุพัตรา ลิ่มสุวรรณโชติ
10	2003000346	สิทธิบัตรยังไม่ประกาศ	สำนักงานพัฒนาการวิจัยการเกษตร (องค์การมหาชน), มหาวิทยาลัยสงขลานครินทร์	รศ.ดร.จุไรทิพย์ หวังสินทวีกุล, นางสาวนฤมล เส็งนนท์, รองศาสตราจารย์นัฏฐา แก้วนพรัตน์, ผศ.ดร.วิชาญ เกตุจินดา, ผศ.ดร.สมชาย ศรีวิริยะจันทร์, รองศาสตราจารย์สมสมร ชิตตระการ, ผศ.ดร.วันดี อุดมอักษร, ดร.สุพัตรา ลิ่มสุวรรณโชติ

Ex3 หาจำนวนของสิทธิบัตร อนุสิทธิบัตร และ สิทธิบัตรออกแบบผลิตภัณฑ์ โดยมี **รศ.ดร.วรากร ลิ่มบุตร** เป็นผู้ประดิษฐ์



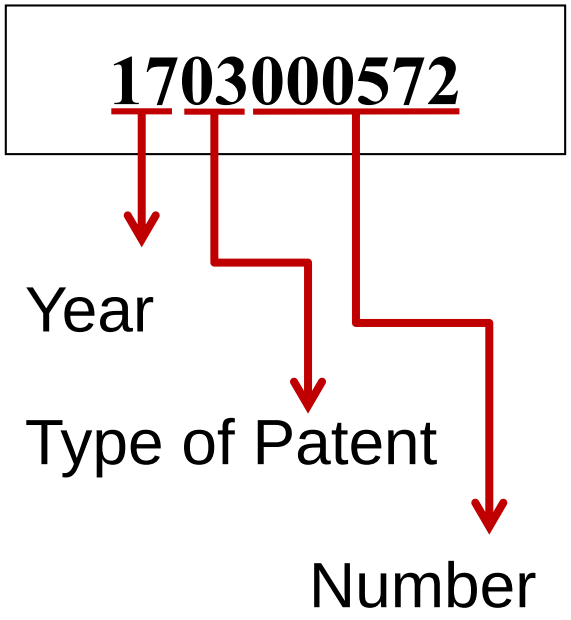
Ex3 หาจำนวนของสิทธิบัตร อนุสิทธิบัตร และ สิทธิบัตรออกแบบผลิตภัณฑ์ โดยมี **รศ.ดร.วรากร ลิ่มบุตร** เป็นผู้ประดิษฐ์

Application No.

16	1703000572	14116	14116	อุปกรณ์ตรวจวัดคลอรีนแบบสวมใส่		----- -28/09/2560- -----(OCR) ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
17	1702001099	174700	70537	อุปกรณ์ตรวจวัดคลอรีน		ข้อถือสิทธิขอถือสิทธิในแบบผลิตภัณฑ์ ซึ่งได้แก่ ร ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
18	1702001097	174699		อุปกรณ์ตรวจวัดคลอรีน		ข้อถือสิทธิขอถือสิทธิในแบบผลิตภัณฑ์ ซึ่งได้แก่ ร ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
19	1701001959	171364		ชุดอุปกรณ์ตรวจวัดคลอรีนแบบพกพา	&n ...	1. อุปกรณ์ตรวจวัดคลอรีนพกพาที่ซึ่งประกอบด้วย &nbs ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
20	1603001868			สิทธิบัตรยังไม่ประกาศโฆษณา			มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
21	1602003608	167086	65798	อุปกรณ์ชุบเคลือบผิวและกัดผิวโลหะ		ข้อถือสิทธิ & ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
22	1601007291	170118		อุปกรณ์ชุบเคลือบผิวและกัดผิววัสดุด้วยไฟฟ้าแบบ	&n ...	&n ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร

Ex3

Application No.



Type of Patent
01 = Patent
02 = Design Patent
03 = Pretty Patent

Ex 3 หาจำนวนของสิทธิบัตร อนุสิทธิบัตร และ สิทธิบัตรออกแบบผลิตภัณฑ์ โดยมี **รศ.ดร.วรากร ลิ่มบุตร** เป็นผู้ประดิษฐ์

Publication No.

16	1703000572	14116	14116	อุปกรณ์ตรวจวัดคลอรีนแบบสวมใส่		----- -28/09/2560- -----(OCR) ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
17	1702001099	174700	70537	อุปกรณ์ตรวจวัดคลอรีน		ข้อถือสิทธิขอถือสิทธิในแบบผลิตภัณฑ์ ซึ่งได้แก่ ร ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
18	1702001097	174699		อุปกรณ์ตรวจวัดคลอรีน		ข้อถือสิทธิขอถือสิทธิในแบบผลิตภัณฑ์ ซึ่งได้แก่ ร ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
19	1701001959	171364		ชุดอุปกรณ์ตรวจวัดคลอรีนแบบพกพา	&n ...	1. อุปกรณ์ตรวจวัดคลอรีนพกพาที่ซึ่งประกอบด้วย &nbs ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
20	1603001868			สิทธิบัตรยังไม่ประกาศโฆษณา			มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
21	1602003608	167086	65798	อุปกรณ์ชุบเคลือบผิวและกัดผิวโลหะ		ข้อถือสิทธิ & ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
22	1601007291	170118		อุปกรณ์ชุบเคลือบผิวและกัดผิววัสดุด้วยไฟฟ้าแบบ	&n ...	&n ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร

Ex3 หาจำนวนของสิทธิบัตร อนุสิทธิบัตร และ สิทธิบัตรออกแบบผลิตภัณฑ์ โดยมี **รศ.ดร.วรากร ลิ่มบุตร** เป็นผู้ประดิษฐ์

Patent No.

16	1703000572	14116	14116	อุปกรณ์ตรวจวัดคลอรีนแบบสวมใส่		----- -28/09/2560- -----(OCR) ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
17	1702001099	174700	70537	อุปกรณ์ตรวจวัดคลอรีน		ข้อถือสิทธิขอถือสิทธิในแบบผลิตภัณฑ์ ซึ่งได้แก่ ร ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
18	1702001097	174699		อุปกรณ์ตรวจวัดคลอรีน		ข้อถือสิทธิขอถือสิทธิในแบบผลิตภัณฑ์ ซึ่งได้แก่ ร ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
19	1701001959	171364		ชุดอุปกรณ์ตรวจวัดคลอรีนแบบพกพา	&n ...	1. อุปกรณ์ตรวจวัดคลอรีนพกพาที่ซึ่งประกอบด้วย &nbs ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
20	1603001868			สิทธิบัตรยังไม่ประกาศโฆษณา			มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
21	1602003608	167086	65798	อุปกรณ์ชุบเคลือบผิวและกัดผิวโลหะ		ข้อถือสิทธิ & ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
22	1601007291	170118		อุปกรณ์ชุบเคลือบผิวและกัดผิววัสดุด้วยไฟฟ้าแบบ	&n ...	&n ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร

Ex3 หาจำนวนของสิทธิบัตร อนุสิทธิบัตร และ สิทธิบัตรออกแบบผลิตภัณฑ์ โดยมี **รศ.ดร.วรากร ลิ่มบุตร** เป็นผู้ประดิษฐ์

16	1703000572	14116	14116	อุปกรณ์ตรวจวัดคลอรีนแบบสวมใส่		----- -28/09/2560- -----(OCR) ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
17	1702001099	174700	70537	อุปกรณ์ตรวจวัดคลอรีน		ข้อถือสิทธิขอถือสิทธิในแบบผลิตภัณฑ์ ซึ่งได้แก่ ร ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
18	1702001097	174699		อุปกรณ์ตรวจวัดคลอรีน		ข้อถือสิทธิขอถือสิทธิในแบบผลิตภัณฑ์ ซึ่งได้แก่ ร ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
19	1701001959	171364		ชุดอุปกรณ์ตรวจวัดคลอรีนแบบพกพา	&n ...	1. อุปกรณ์ตรวจวัดคลอรีนพกพาที่ซึ่งประกอบด้วย &nbs ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
20	1603001868			สิทธิบัตรยังไม่ประกาศโฆษณา			มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
21	1602003608	167086	65798	อุปกรณ์ชุบเคลือบผิวและกัดผิวโลหะ		ข้อถือสิทธิ & ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
22	1601007291	170118		อุปกรณ์ชุบเคลือบผิวและกัดผิววัสดุด้วยไฟฟ้าแบบ	&n ...	&n ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร

Patent Pending

ข้อมูลส่วนที่ 1

เลขที่คำขอ : 1603001868	วันที่ขอ : 21 Sep 2559	วันที่รับคำขอ : 06 Oct 2559
เลขที่ประกาศ :	วันที่ประกาศ :	เล่มที่ประกาศ :
เลขที่สิทธิบัตร :	วันที่จดทะเบียน :	เอกสารประกาศโฆษณา :

ข้อมูลส่วนที่ 2

ผู้ขอจดทะเบียนสิทธิบัตร : มหาวิทยาลัยสงขลานครินทร์

ตัวแทน : นายจิตติยุทธ เยี่ยมยกกุล

ผู้ประดิษฐ์/ออกแบบ : นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร

IPC/ID

B21D 47/00

ชื่อผลิตภัณฑ์/สิ่งประดิษฐ์ : สิทธิบัตรยังไม่ประกาศโฆษณา

สถานะสุดท้าย : แปลงเป็นคำขอรับสิทธิบัตร

วันที่ตามสถานะ : -

บทสรุปการประดิษฐ์ซึ่งจะปรากฏบนหน้าประกาศโฆษณา **Read File** : ยังไม่ประกาศโฆษณา

ข้อถือสิทธิ์ (ข้อที่หนึ่ง) ซึ่งจะปรากฏบนหน้าประกาศโฆษณา : ยังไม่ประกาศโฆษณา

แท็ก :

Patent published but not granted

16	1703000572	14116	14116	อุปกรณ์ตรวจวัดคลอรีนแบบสวมใส่		----- -28/09/2560- -----(OCR) ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
17	1702001099	174700	70537	อุปกรณ์ตรวจวัดคลอรีน		ข้อถือสิทธิขอถือสิทธิในแบบผลิตภัณฑ์ ซึ่งได้แก่ ร ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
18	1702001097	174699		อุปกรณ์ตรวจวัดคลอรีน		ข้อถือสิทธิขอถือสิทธิในแบบผลิตภัณฑ์ ซึ่งได้แก่ ร ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
19	1701001959	171364		ชุดอุปกรณ์ตรวจวัดคลอรีนแบบพกพา	&n ...	1. อุปกรณ์ตรวจวัดคลอรีนพกพาที่ซึ่งประกอบด้วย &nbs ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
20	1603001868			สิทธิบัตรยังไม่ประกาศโฆษณา			มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
21	1602003608	167086	65798	อุปกรณ์ชุบเคลือบผิวและกัดผิวโลหะ		ข้อถือสิทธิ & ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
22	1601007291	170118		อุปกรณ์ชุบเคลือบผิวและกัดผิววัสดุด้วยไฟฟ้าแบบ	&n ...	&n ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร

Patent published but not granted

ข้อมูลส่วนที่ 1

เลขที่คำขอ : 1701001959	วันที่ขอ : 20 Mar 2560	วันที่รับคำขอ : 07 Apr 2560
เลขที่ประกาศ : 171364	วันที่ประกาศ : 14 Dec 2560	เล่มที่ประกาศ : 84 / 2560
เลขที่สิทธิบัตร :	วันที่จดทะเบียน :	เอกสารประกาศโฆษณา : Download File

ข้อมูลส่วนที่ 2

ผู้ขอจดทะเบียนสิทธิบัตร : มหาวิทยาลัยสงขลานครินทร์

ตัวแทน : นายจิตติยุทธ เยี่ยมยกกุล

ผู้ประดิษฐ์/ออกแบบ : นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร

IPC/ID

A61G 13/04

ชื่อผลิตภัณฑ์/สิ่งประดิษฐ์ : ชุดอุปกรณ์ตรวจวัดคลอรีนแบบพกพา

สถานะสุดท้าย : ยื่นคำขอให้ตรวจสอบการประดิษฐ์

วันที่ตามสถานะ : 25 Jul 2561

บทสรุปการประดิษฐ์ซึ่งจะปรากฏบนหน้าประกาศโฆษณา Read File : ชุดอุปกรณ์ตรวจวัดคลอรีนแบบพกพาประกอบด้วยส่วนประกอบหลัก 2 ส่วน ส่วนแรกคือส่วนของ ตัวเครื่อง (1) มีหน้าที่ให้ศักย์ไฟฟ้าแก่ขั้วไฟฟ้าซึ่งอยู่ปลายด้านล่างอุปกรณ์ ภายในตัวอุปกรณ์จะมีรางแบตเตอรี่ (4) สำหรับบรรจุแบตเตอรี่ (5) จะเชื่อมต่อกับสวิทช์ (6) ที่ประกอบอยู่บริเวณปลายด้านบนของตัวเครื่อง (1) โดยขั้วลบของแบตเตอรี่จะมีสายไฟ (7) เชื่อมต่อกับขั้วไฟฟ้ากระจกที่มีเคลือบด้วยปรัสเซียนบลู (2) ส่วนขั้วบวก ของแบตเตอรี่จะมีสายไฟ (8) เชื่อมต่อกับขั้วไฟฟ้าที่เป็นลวดแพลตินัม (9) มีหน้าจอ (10) ที่บรรจุในตัวเครื่อง (1) มีหน้าที่แสดงค่าศักย์ไฟฟ้า และอายุการใช้งานของแบตเตอรี่ และมีแถบสีมาตรฐาน (11) สำหรับเทียบหา ปริมาณคลอรีน ส่วนของขั้วไฟฟ้ากระจกที่เคลือบด้วยปรัสเซียนบลู (2) ที่มีฟิล์มของนาฟิออน (Nafion) เคลือบ อยู่ด้านบนซึ่งนาฟิออนทำหน้าที่เป็นตัวป้องกันการหลุดออกของปรัสเซียนบลู และส่วนที่สองคือน้ำยาคืน สภาพขั้วไฟฟ้ากระจกที่บรรจุอยู่ในขวดพลาสติก (3) ที่เป็นสารละลายโซเดียมคลอไรด์

ข้อถือสิทธิ์ (ข้อที่หนึ่ง) ซึ่งจะปรากฏบนหน้าประกาศโฆษณา : 1. อุปกรณ์ตรวจวัดคลอรีนพกพา ที่ซึ่งประกอบด้วย ส่วนของตัวเครื่อง (1) มีลักษณะเป็นแท่งทรงกระบอก ภายในตัวเครื่อง (1) จะมีรางแบตเตอรี่ (4) สำหรับบรรจุแบตเตอรี่ (5) ที่เชื่อมต่อกับสวิทช์ (6) ที่มีหน้าที่ควบคุมการให้ศักย์ไฟฟ้าแก่ขั้วไฟฟ้ากระจกเมื่อ ต้องการเปลี่ยนกระจกให้ไปอยู่ในรูปรีดิวซ์ (reduced form) ที่มีลักษณะโปร่งใสดังเดิม โดยสวิทช์ (6) ประกอบ อยู่บริเวณปลายด้านบนของตัวเครื่อง (1) &nbs

Patent published

- ✓ Bibliographical information
- ✓ Abstract
- ✓ Drawing

Bibliographical Information

(19) กรมทรัพย์สินทางปัญญา
กระทรวงพาณิชย์

(11) เลขที่ประกาศโฆษณา 171364
(43) วันประกาศโฆษณา 14 ธันวาคม 2560

(12) ประกาศโฆษณาคำขอรับสิทธิบัตรการประดิษฐ์

(21) เลขที่คำขอ 1701001959 (22) วันที่ยื่นคำขอ 20 มีนาคม 2560	(51) สัญลักษณ์จำแนกการประดิษฐ์ระหว่างประเทศ Int.Cl.10 A61G 13/04
(31) เลขที่คำขอที่ยื่นครั้งแรก - (32) วันที่ยื่นคำขอครั้งแรก - (33) ประเทศที่ยื่นคำขอครั้งแรก -	(71) ผู้ขอรับสิทธิบัตร มหาวิทยาลัยสงขลานครินทร์ (72) ผู้ประดิษฐ์ นาขวรากร ลิ่มบุตร และคณะ (74) ตัวแทน นายจิตติยุทธ เยี่ยมยกกุล ศูนย์ทรัพย์สินทางปัญญา อุทยานวิทยาศาสตร์ มหาวิทยาลัยสงขลานครินทร์ 15 ถนนกาญจนวณิชย์ อำเภอหาดใหญ่ จังหวัดสงขลา 90110

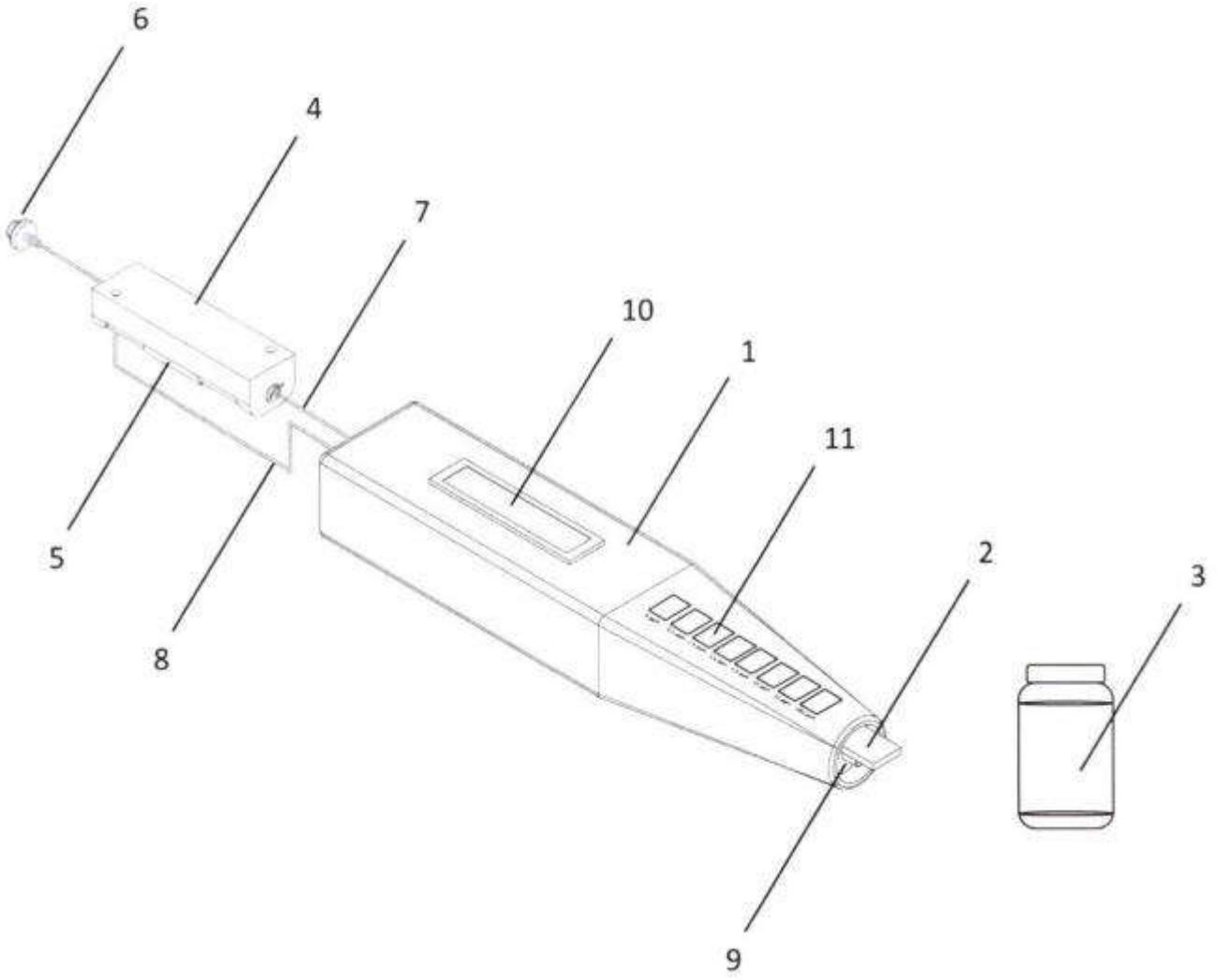
Abstract

(54) **ชื่อที่แสดงถึงการประดิษฐ์** ชุดอุปกรณ์ตรวจวัดคลอรีนแบบพกพา

(57) **บทสรุปการประดิษฐ์**

ชุดอุปกรณ์ตรวจวัดคลอรีนแบบพกพาประกอบด้วยส่วนประกอบหลัก 2 ส่วน ส่วนแรกคือส่วนของตัวเครื่อง (1) มีหน้าที่ให้ศักย์ไฟฟ้าแก่ขั้วไฟฟ้าซึ่งอยู่ปลายด้านล่างอุปกรณ์ ภายในตัวอุปกรณ์จะมีรางแบตเตอรี่ (4) สำหรับบรรจุแบตเตอรี่ (5) จะเชื่อมต่อกับสวิทช์ (6) ที่ประกอบอยู่บริเวณปลายด้านบนของตัวเครื่อง (1) โดยขั้วลบของแบตเตอรี่จะมีสายไฟ (7) เชื่อมต่อกับขั้วไฟฟ้ากระจกที่มีเคลือบด้วยปรัสเซียนบลู (2) ส่วนขั้วบวกของแบตเตอรี่จะมีสายไฟ (8) เชื่อมต่อกับขั้วไฟฟ้าที่เป็นลวดแพลตินัม (9) มีหน้าจอ (10) ที่บรรจุในตัวเครื่อง (1) มีหน้าที่แสดงค่าศักย์ไฟฟ้า และอายุการใช้งานของแบตเตอรี่ และมีแถบสีมาตรฐาน (11) สำหรับเทียบหาปริมาณคลอรีน ส่วนของขั้วไฟฟ้ากระจกที่เคลือบด้วยปรัสเซียนบลู (2) ที่มีฟิล์มของนาฟีออน (Nafion) เคลือบอยู่ด้านบนซึ่งนาฟีออนทำหน้าที่เป็นตัวป้องกันการหลุดออกของปรัสเซียนบลู และส่วนที่สองคือน้ำยาคืนสภาพขั้วไฟฟ้ากระจกที่บรรจุอยู่ในขวดพลาสติก (3) ที่เป็นสารละลายโซเดียมคลอไรด์

Drawing



Patent Granted

16	1703000572	14116	14116	อุปกรณ์ตรวจวัดคลอรีนแบบสวมใส่		----- -28/09/2560- -----(OCR) ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
17	1702001099	174700	70537	อุปกรณ์ตรวจวัดคลอรีน		ข้อถือสิทธิขอถือสิทธิในแบบผลิตภัณฑ์ ซึ่งได้แก่ ร ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
18	1702001097	174699		อุปกรณ์ตรวจวัดคลอรีน		ข้อถือสิทธิขอถือสิทธิในแบบผลิตภัณฑ์ ซึ่งได้แก่ ร ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
19	1701001959	171364		ชุดอุปกรณ์ตรวจวัดคลอรีนแบบพกพา	&n ...	1. อุปกรณ์ตรวจวัดคลอรีนพกพาที่ซึ่งประกอบด้วย &nbs ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
20	1603001868			สิทธิบัตรยังไม่ประกาศโฆษณา			มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
21	1602003608	167086	65798	อุปกรณ์ชุบเคลือบผิวและกัดผิวโลหะ		ข้อถือสิทธิ & ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร
22	1601007291	170118		อุปกรณ์ชุบเคลือบผิวและกัดผิววัสดุด้วยไฟฟ้าแบบ	&n ...	&n ...	มหาวิทยาลัยสงขลานครินทร์	นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร

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ข้อมูลส่วนที่ 1

เลขที่คำขอ : 1703000572	วันที่ขอ : 20 Mar 2560	วันที่รับคำขอ : 20 Mar 2560
เลขที่ประกาศ : 14116	วันที่ประกาศ : 13 Jul 2561	เล่มที่ประกาศ : 7 / 2561
เลขที่สิทธิบัตร : 14116	วันที่จดทะเบียน : 13 Jul 2561	เอกสารประกาศโฆษณา : Download File

ข้อมูลส่วนที่ 2

ผู้ขอจดทะเบียนสิทธิบัตร : มหาวิทยาลัยสงขลานครินทร์

ตัวแทน : นายจิตติยุทธ เยี่ยมยกกุล

ผู้ประดิษฐ์/ออกแบบ : นายวรากร ลิ่มบุตร, นางสาวเพริศพิชญ์ คณาธารณา, นางสาวปณต ถาวรังกูร

ชื่อผลิตภัณฑ์/สิ่งประดิษฐ์ : อุปกรณ์ตรวจวัดคลอรีนแบบสวมใส่

สถานะสุดท้าย : ระหว่างการจัดทำเอกสารตอบรับและจัดส่งเอกสาร

วันที่ตามสถานะ : 25 Oct 2561

IPC/ID

G01N 33/18

บทสรุปการประดิษฐ์ซึ่งจะปรากฏบนหน้าประกาศโฆษณา Read File :

ข้อถือสิทธิ์ (ข้อที่หนึ่ง) ซึ่งจะปรากฏบนหน้าประกาศโฆษณา : ------28/09/2560------(OCR) หน้า 1 ของจำนวน 1 หน้า ข้อถือสิทธิ 1. อุปกรณ์ตรวจวัดคลอรีนแบบสวมใส่ ที่ซึ่ง ประกอบด้วยส่วนตัวสายรัด (1) และส่วนตัวเรือน (2) มีลักษณะ เป็นหน้าปัดแสดงผล โดยมีลักษณะพิเศษคือ ระหว่างสายรัด (1) มีตัวเรือน (2) ที่มีลักษณะเป็นหน้าปัดแสดงผลภายใน ประกอบด้วยช่องแสดงผล 3 ช่องที่มีหน้าที่แสดงผลซึ่งประกอบด้วยช่องแถบสีมาตรฐาน (3) ช่องแถบสี มาตรฐาน (4) และช่องแถบทดสอบ (5) ที่เคลือบด้วยปรัสเซียนบลูที่มีฟิล์มของนาฟิอ

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ข้อมูลส่วนที่ 3

เอกสารข้อถือสิทธิ์ Read File	หนังสือสำคัญจดทะเบียน Read File	เอกสารรายละเอียดการประดิษฐ์ Read File
ภาพเขียนRead File		

ข้อถือสิทธิ์ (ทั้งหมด) ซึ่งจะไม่ปรากฏบนหน้าประกาศโฆษณา :

------28/09/2560------(OCR) หน้า 1 ของจำนวน 1 หน้า ข้อถือสิทธิ 1. อุปกรณ์ตรวจวัดคลอรีนแบบสวมใส่ ที่ซึ่ง ประกอบด้วยส่วนตัวสายรัด (1) และส่วนตัวเรือน (2) มีลักษณะ เป็นหน้าปัดแสดงผล โดยมีลักษณะพิเศษคือ ระหว่างสายรัด (1) มีตัวเรือน (2) ที่มีลักษณะเป็นหน้าปัดแสดงผลภายใน ประกอบด้วยช่องแสดงผล 3 ช่องที่มีหน้าที่แสดงผลซึ่งประกอบด้วยช่องแถบสีมาตรฐาน (3) ช่องแถบสี มาตรฐาน (4) และช่องแถบทดสอบ (5) ที่เคลือบด้วยปรัสเซียนบลูที่มีฟิล์มของนาฟีออนปกคลุมอยู่ชั้นบนที่มี ลักษณะโปร่งใส โดยมีพลาสติก (6) ที่มีช่องวงกลม 3 ช่องปิดทับเพื่อใช้ในการแสดงผล 2. อุปกรณ์ตรวจวัดคลอรีนแบบสวมใส่ตามข้อถือสิทธที่ 1 ที่ซึ่งช่องแถบสีมาตรฐาน (3) ที่ความเข้มข้น 1.0 มิลลิกรัมต่อลิตร ช่องแถบสีมาตรฐาน (4) ที่ความเข้มข้น 3.0 มิลลิกรัมต่อลิตร และช่องแถบทดสอบ (5) สำหรับ เทียบหาปริมาณคลอรีน ---------- 1. อุปกรณ์ตรวจวัดคลอรีนแบบสวมใส่ ที่ซึ่ง ประกอบด้วยส่วนตัวสายรัด (1) มีลักษณะเป็นแป้น ภายใน ประกอบด้วยช่องแสดงผล 3 ช่อง โดยมีลักษณะพิเศษคือระหว่างสายรัด (1) มีตัวเรือน (2) ที่มีลักษณะเป็นแป้นภายในประกอบด้วยช่อง แสดงผล 3 ช่องที่มีหน้าที่แสดงผลซึ่งประกอบด้วยช่องแถบสีมาตรฐาน (3) ช่องแถบสีมาตรฐาน (4) และช่อง แถบทดสอบ (5) ที่เคลือบด้วยปรัสเซียนบลูที่มีฟิล์มของนาฟีออนปกคลุมอยู่ชั้นบนที่มีลักษณะโปร่งใส โดยมี พลาสติก (6) ที่มีช่องวงกลม 3 ช่องปิดทับเพื่อใช้ในการแสดงผล 2. อุปกรณ์ตรวจวัดคลอรีนแบบสวมใส่ตามข้อถือสิทธิ์ที่ 1 ที่ซึ่งช่องแถบสีมาตรฐาน (3) ที่ความเข้มข้น 1.0 มิลลิกรัมต่อลิตร ช่องแถบสีมาตรฐาน (4) ที่ความเข้มข้น 3.0 มิลลิกรัมต่อลิตร และช่องแถบทดสอบ (5) สำหรับ เทียบหาปริมาณคลอรีน

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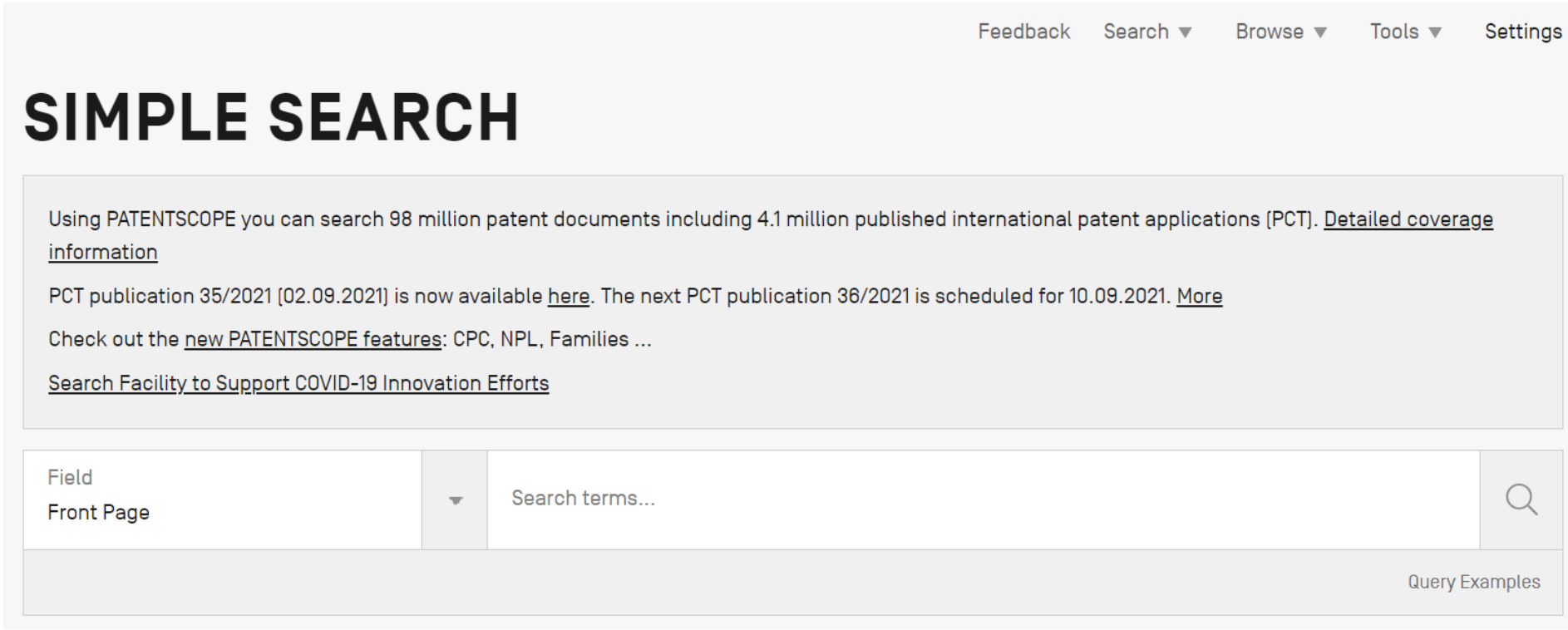

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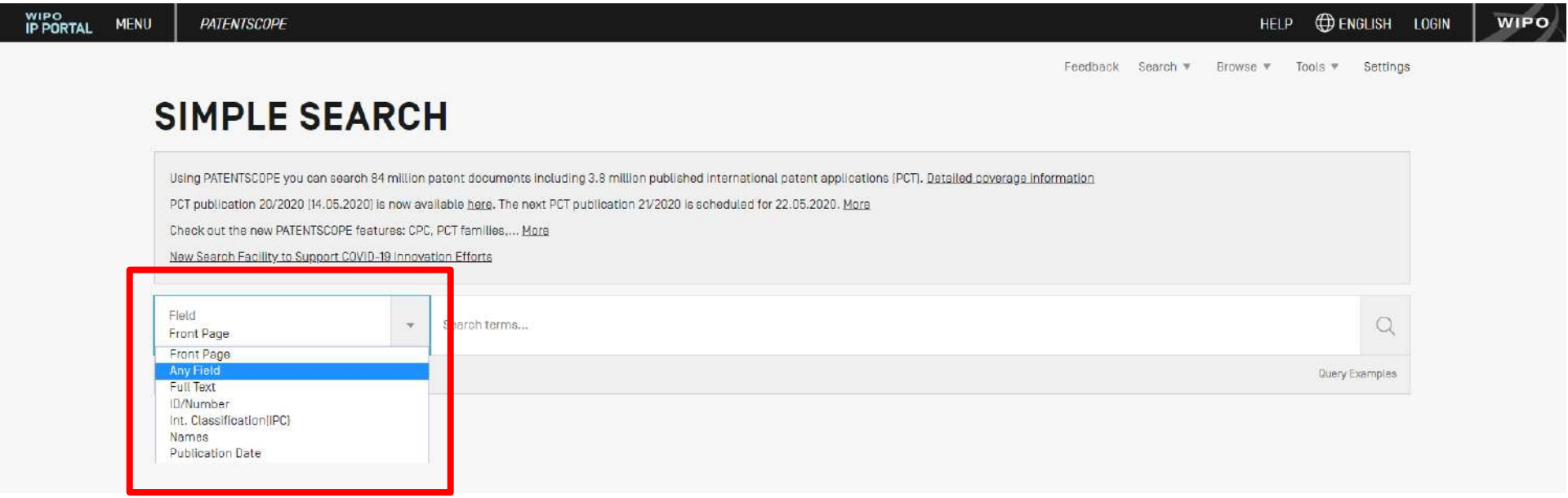
Patentscope



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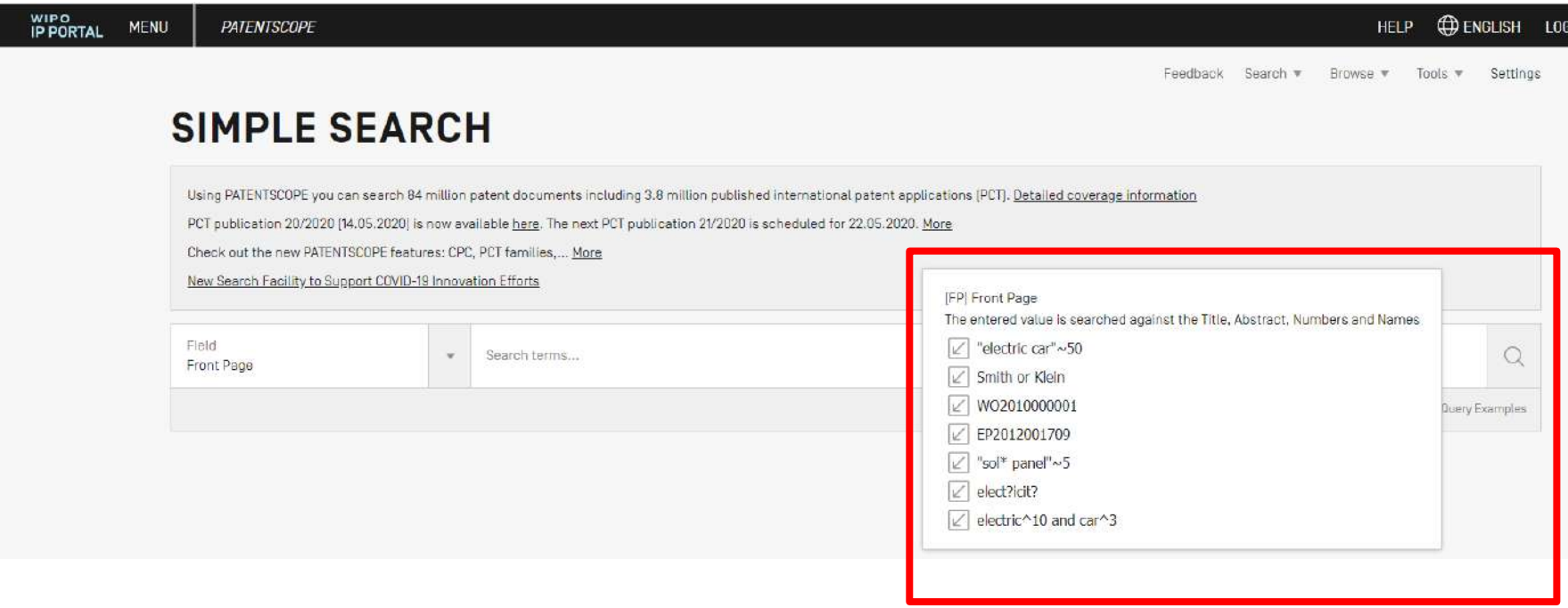

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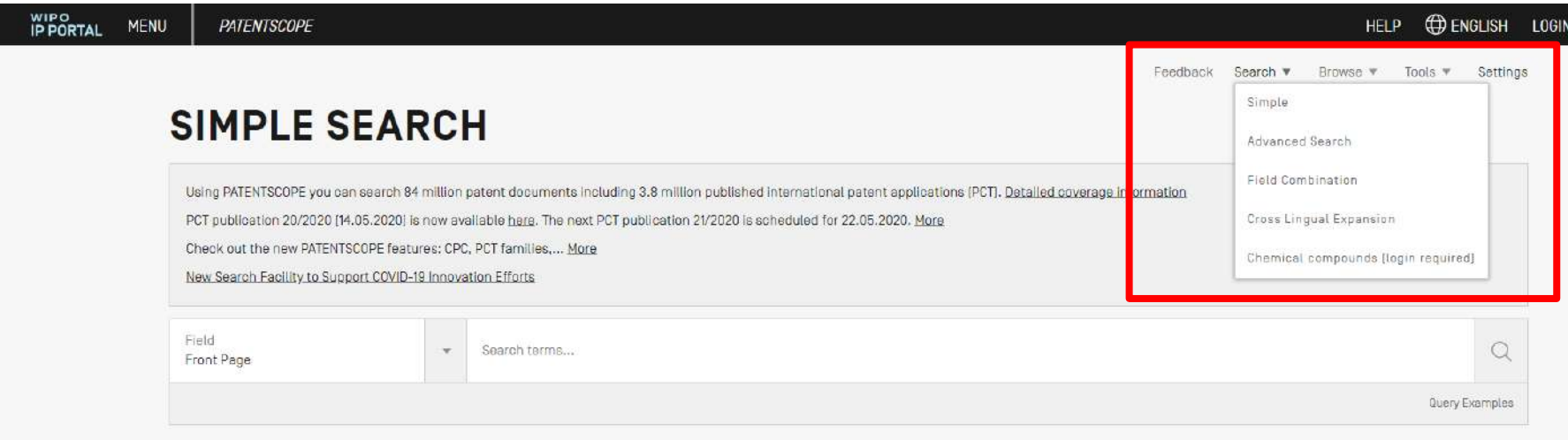

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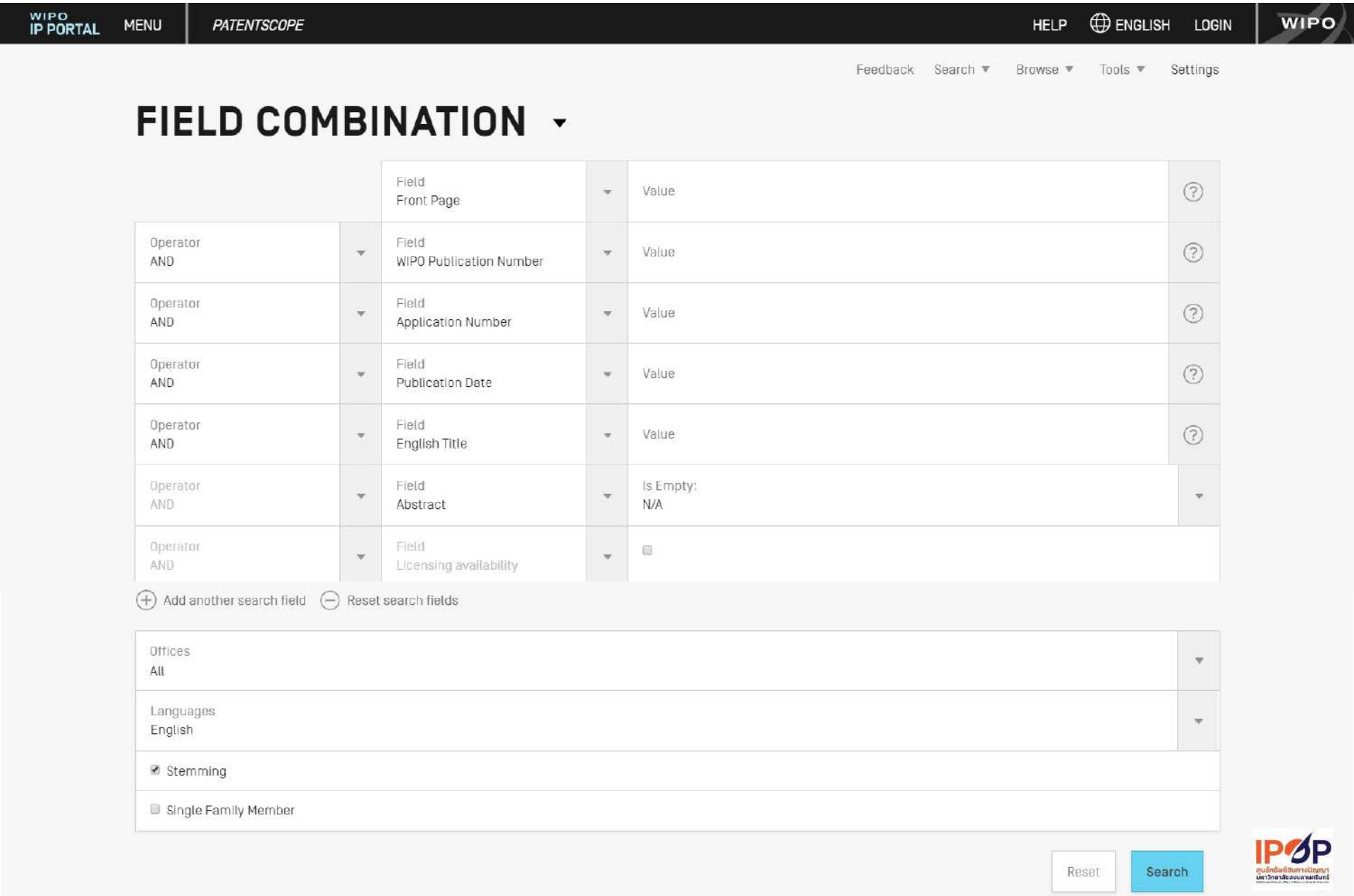

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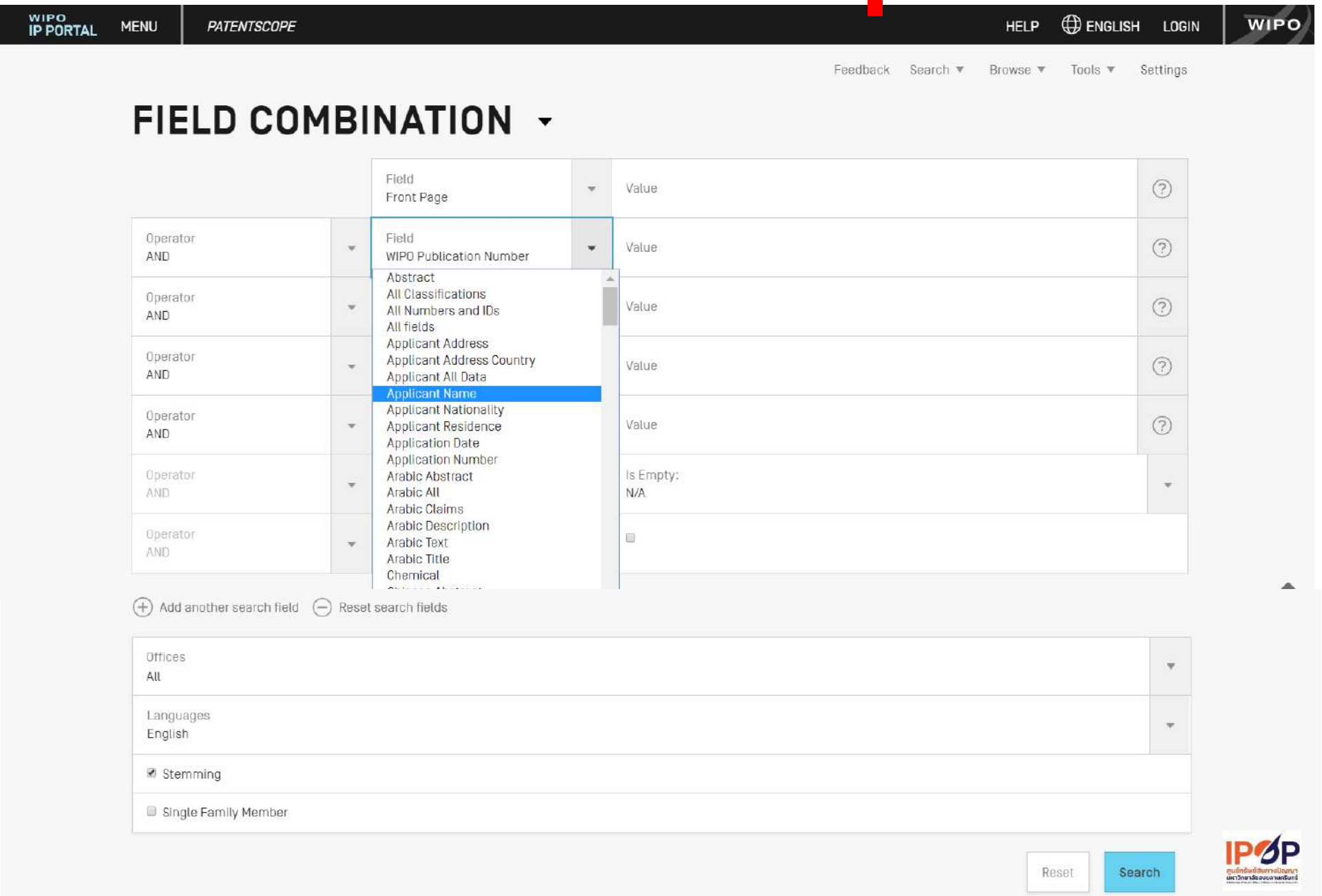

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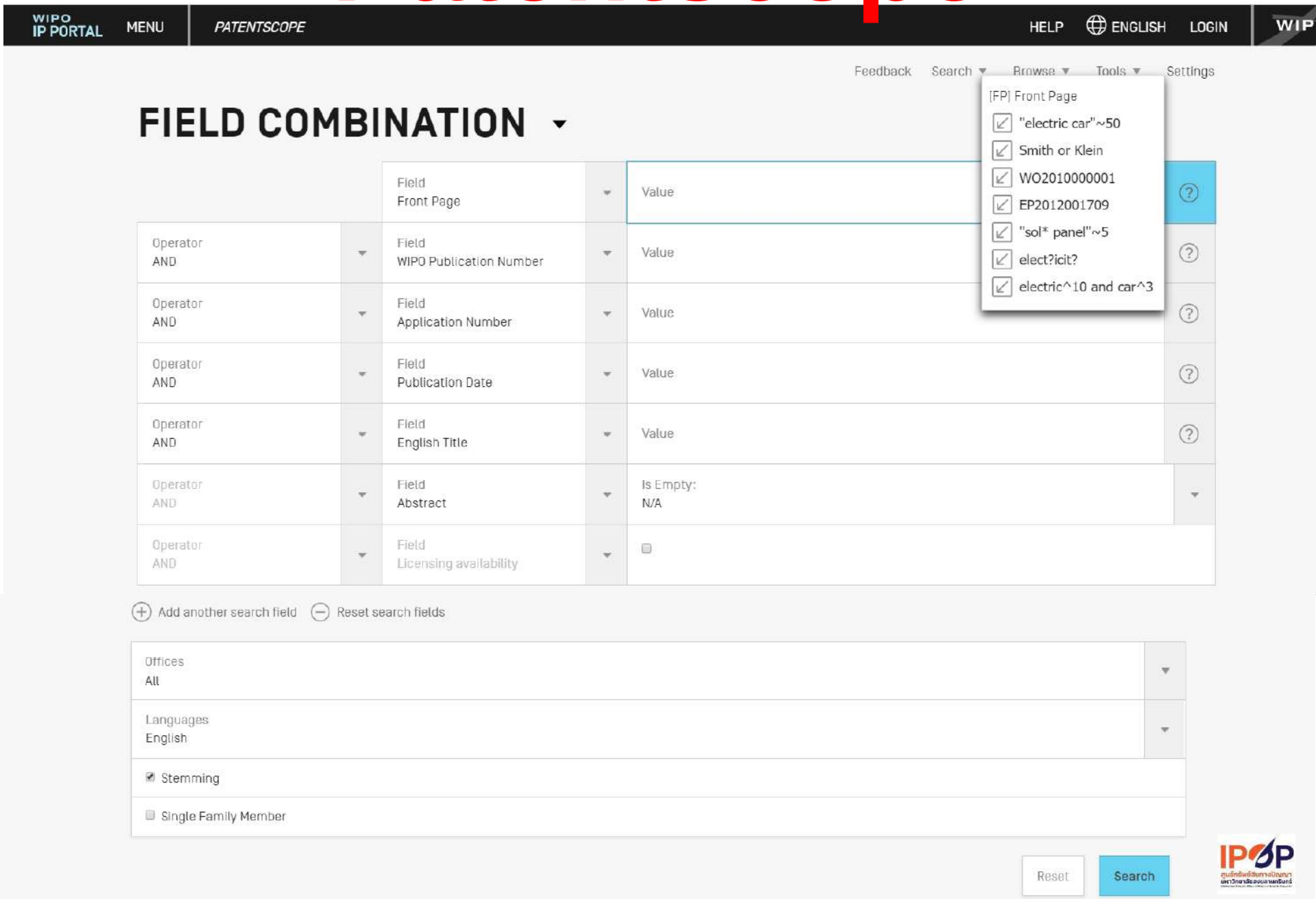

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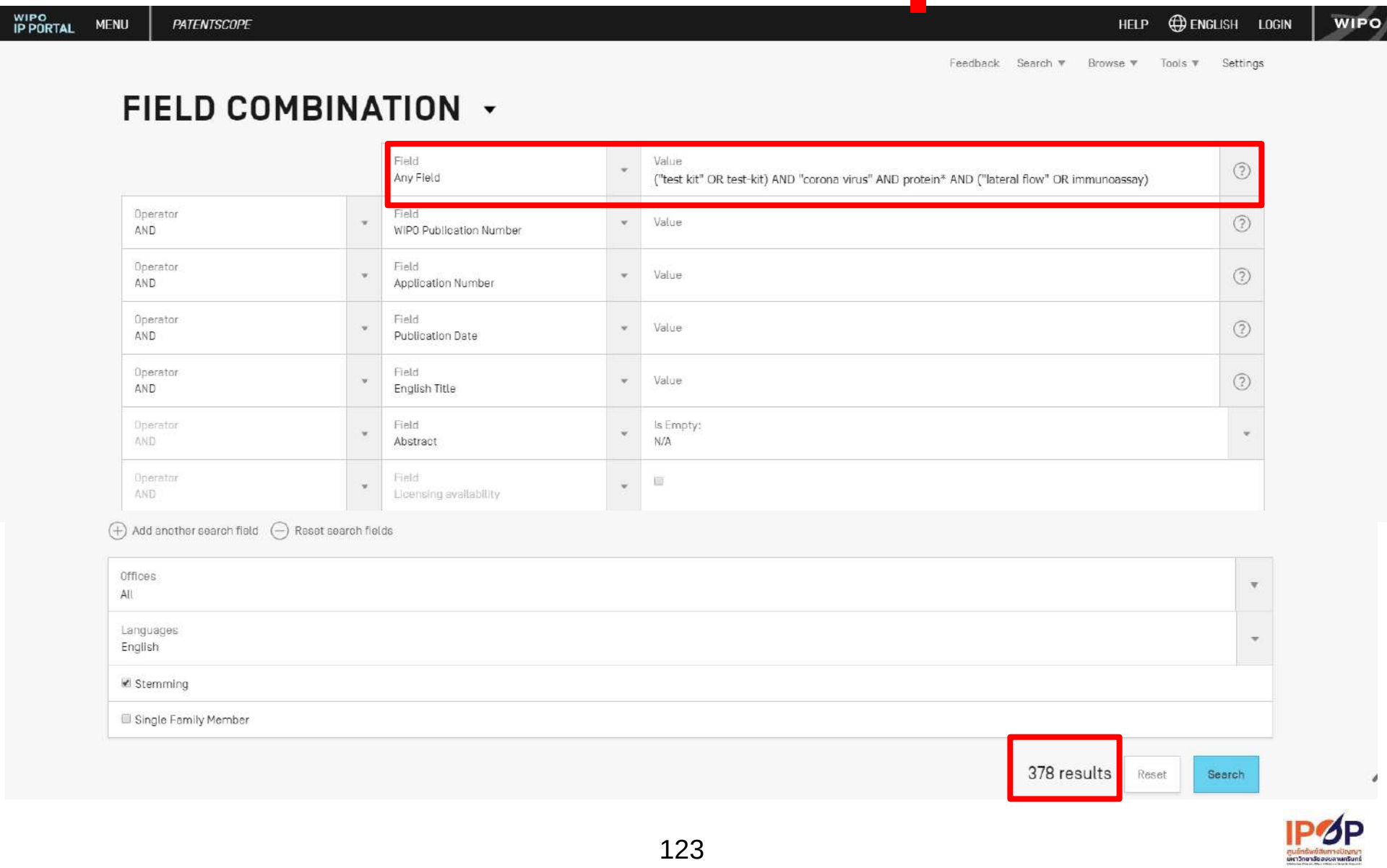

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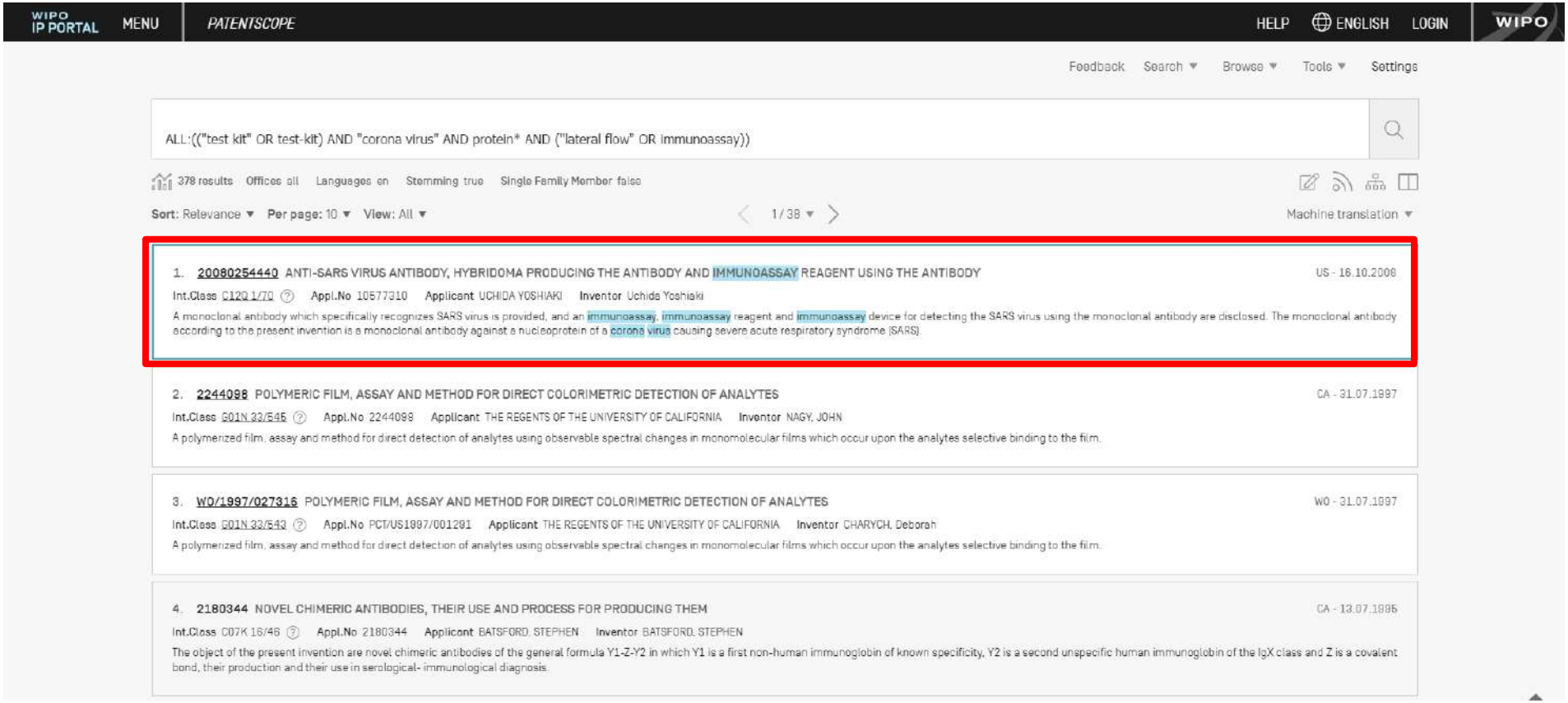

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1. US20080254440 - ANTI-SARS VIRUS ANTIBODY, HYBRIDOMA PRODUCING THE ANTIBODY AND IMMUNOASSAY REAGENT USING THE ANTIBODY

National Biblio. Data | Description | Claims | Drawings | Documents

PermaLink | Machine translation

Office
United States of America

Application Number
10577810

Application Date
29.10.2004

Publication Number
20080254440

Publication Date
16.10.2008

Publication Kind
A1

IPC
C12Q 1/70 | C07K 16/08 | C07K 16/10 | C07K 16/18 | C12M 1/00 | C12N 5/06

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Applicants
UCHIDA YOSHIAKI
FUJII NOBUYUKI
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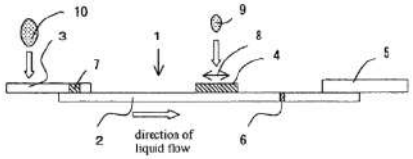
Miyake Kazushige

Agents
BIRCH STEWART KOLASCH &; BIRCH

Priority Data
2003379779 31.10.2003 JP
2004034288 10.02.2004 JP

Title
[EN] Anti-Sars Virus Antibody Hybridoma Producing the Antibody and Immunoassay Reagent Using the Antibody



Abstract
[EN]
A monoclonal antibody which specifically recognizes SARS virus is provided, and an immunoassay, immunoassay reagent and immunoassay device for detecting the SARS virus using the monoclonal antibody are disclosed. The monoclonal antibody according to the present invention is a monoclonal antibody against a nucleoprotein of a corona virus causing severe acute respiratory syndrome (SARS).

Also published as
CN1902230 | IN1457/KOLNP/2006 | JPWO2005042579 | WO/2005/042579

Patentscope

1. US20080254440 - ANTI-SARS VIRUS ANTIBODY, HYBRIDOMA PRODUCING THE ANTIBODY AND IMMUNOASSAY REAGENT USING THE ANTIBODY

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MIYAKE KAZUSHIGE

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Kurano Yoshihiro
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Kido Yasuji
Miyake Kazushige

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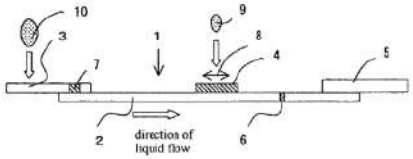

Abstract
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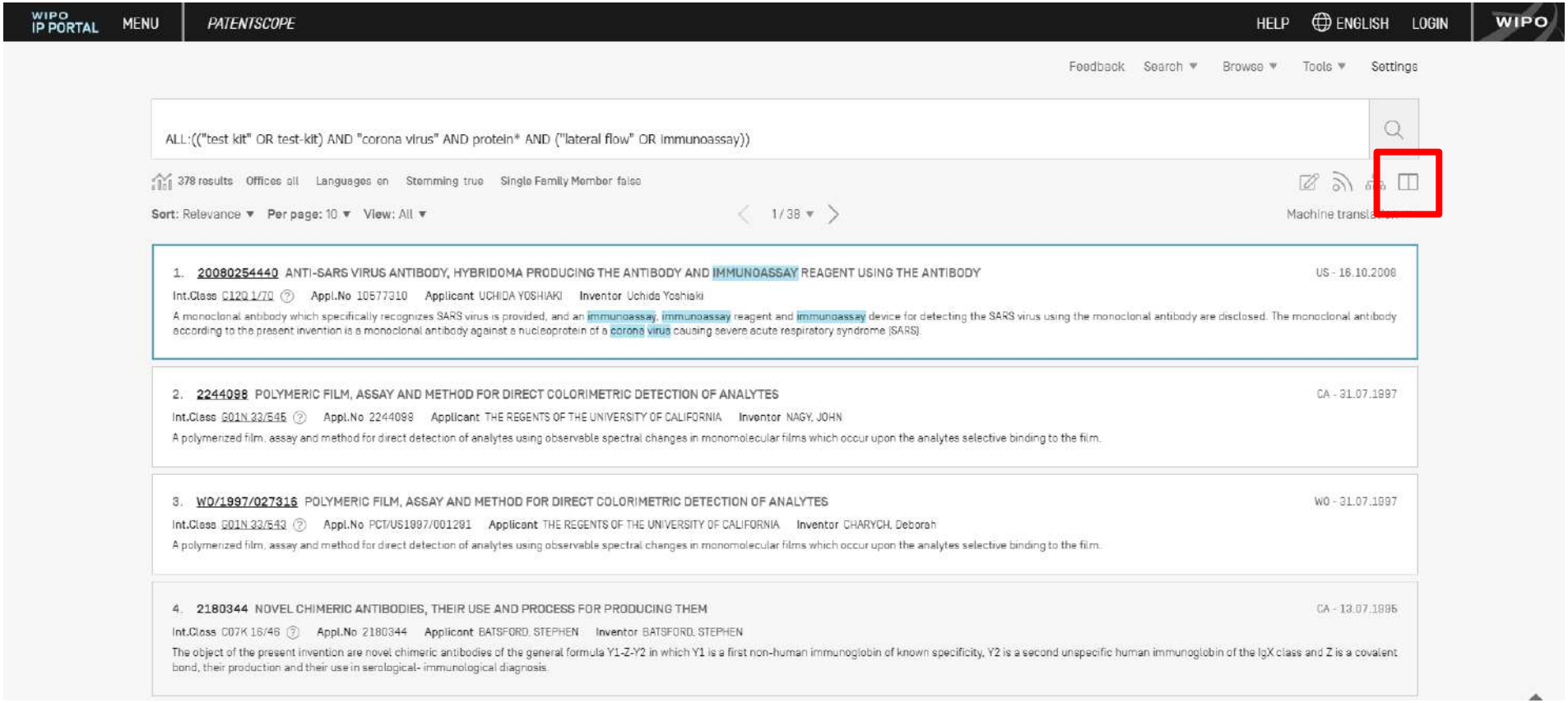

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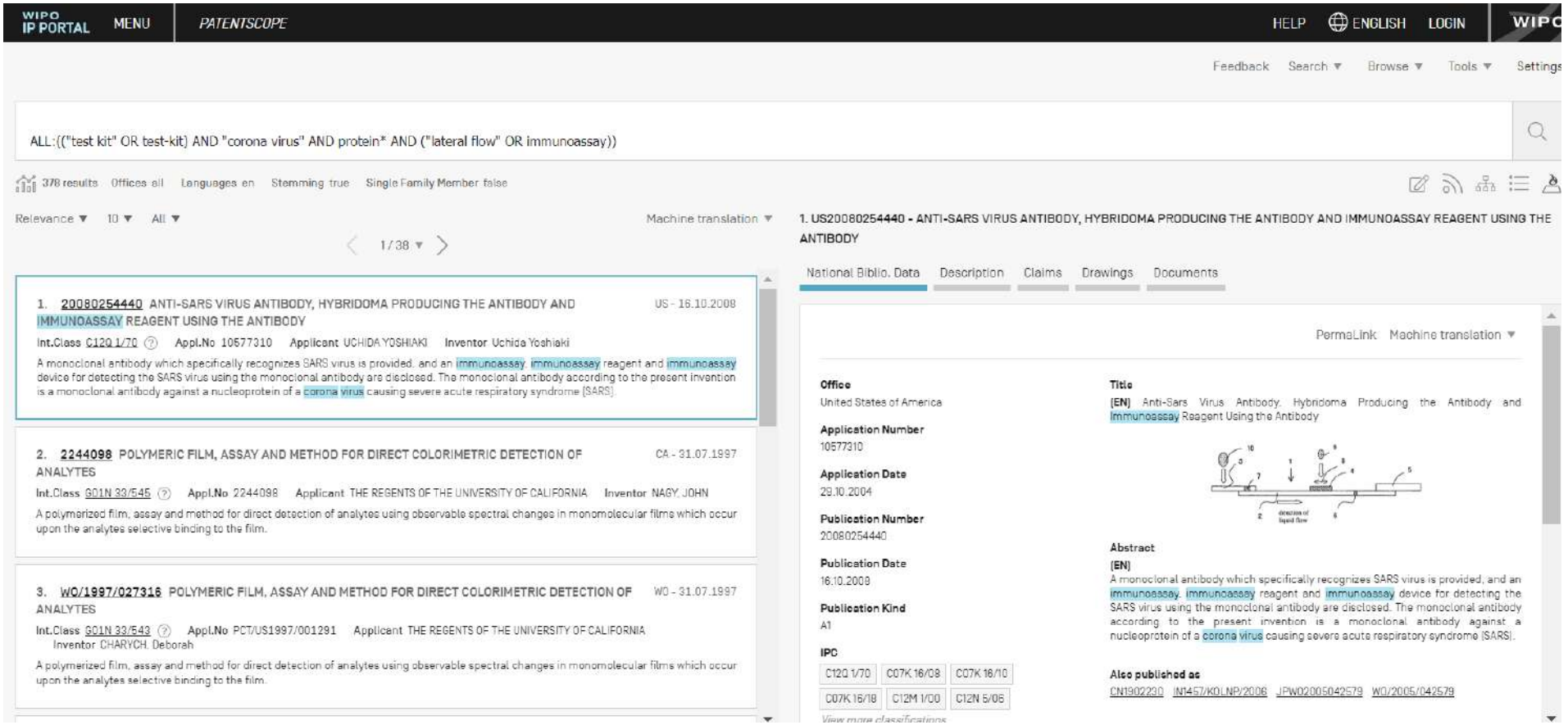

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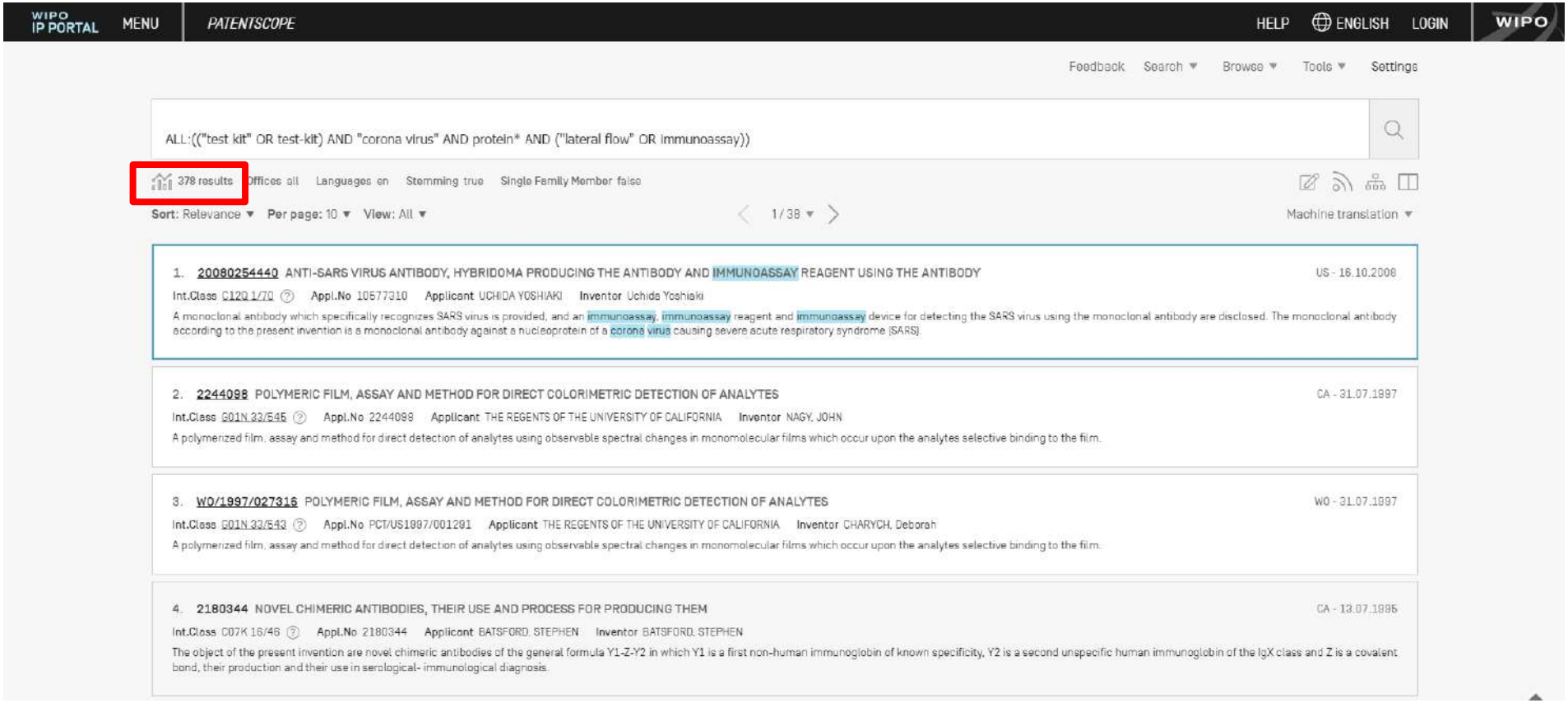

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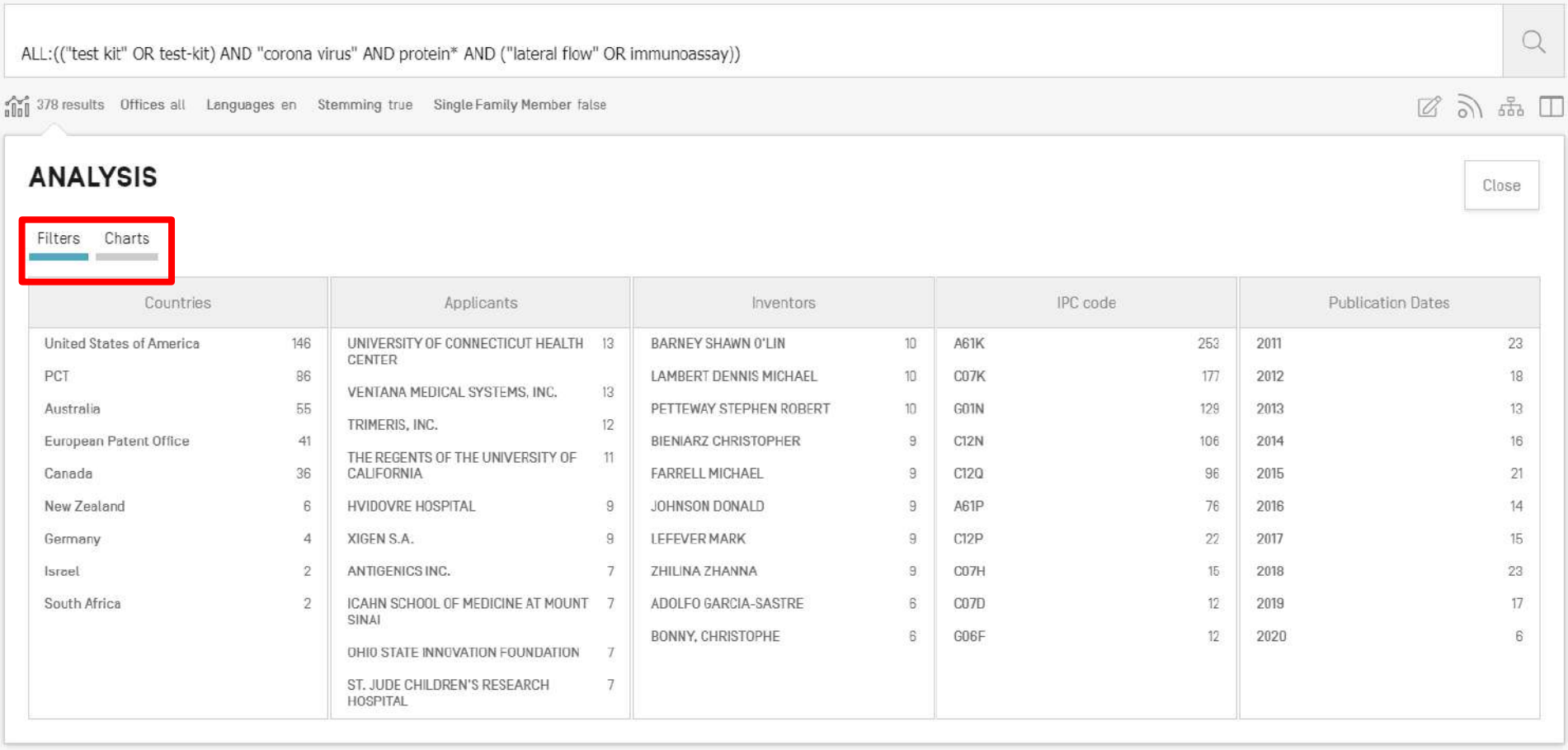

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ALL:(("test kit" OR test-kit) AND "corona virus" AND protein* AND ("lateral flow" OR immunoassay))

378 results Offices all Languages en Stemming true Single Family Member false

ANALYSIS

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Countries		Applicants		Inventors		IPC code		Publication Dates	
United States of America	146	UNIVERSITY OF CONNECTICUT HEALTH CENTER	13	BARNEY SHAWN O'LIN	10	A61K	253	2011	23
PCT	86	VENTANA MEDICAL SYSTEMS, INC.	13	LAMBERT DENNIS MICHAEL	10	C07K	177	2012	18
Australia	55	TRIMERIS, INC.	12	PETTEWAY STEPHEN ROBERT	10	G01N	129	2013	13
European Patent Office	41	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA	11	BIENIARZ CHRISTOPHER	9	C12N	106	2014	16
Canada	36	HVIDOVRE HOSPITAL	9	FARRELL MICHAEL	9	C12Q	96	2015	21
New Zealand	6	XIGEN S.A.	9	JOHNSON DONALD	9	A61P	76	2016	14
Germany	4	ANTIGENICS INC.	7	LEFEVER MARK	9	C12P	22	2017	15
Israel	2	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	7	ZHILINA ZHANNA	9	C07H	15	2018	23
South Africa	2	OHIO STATE INNOVATION FOUNDATION	7	ADOLFO GARCIA-SASTRE	6	C07D	12	2019	17
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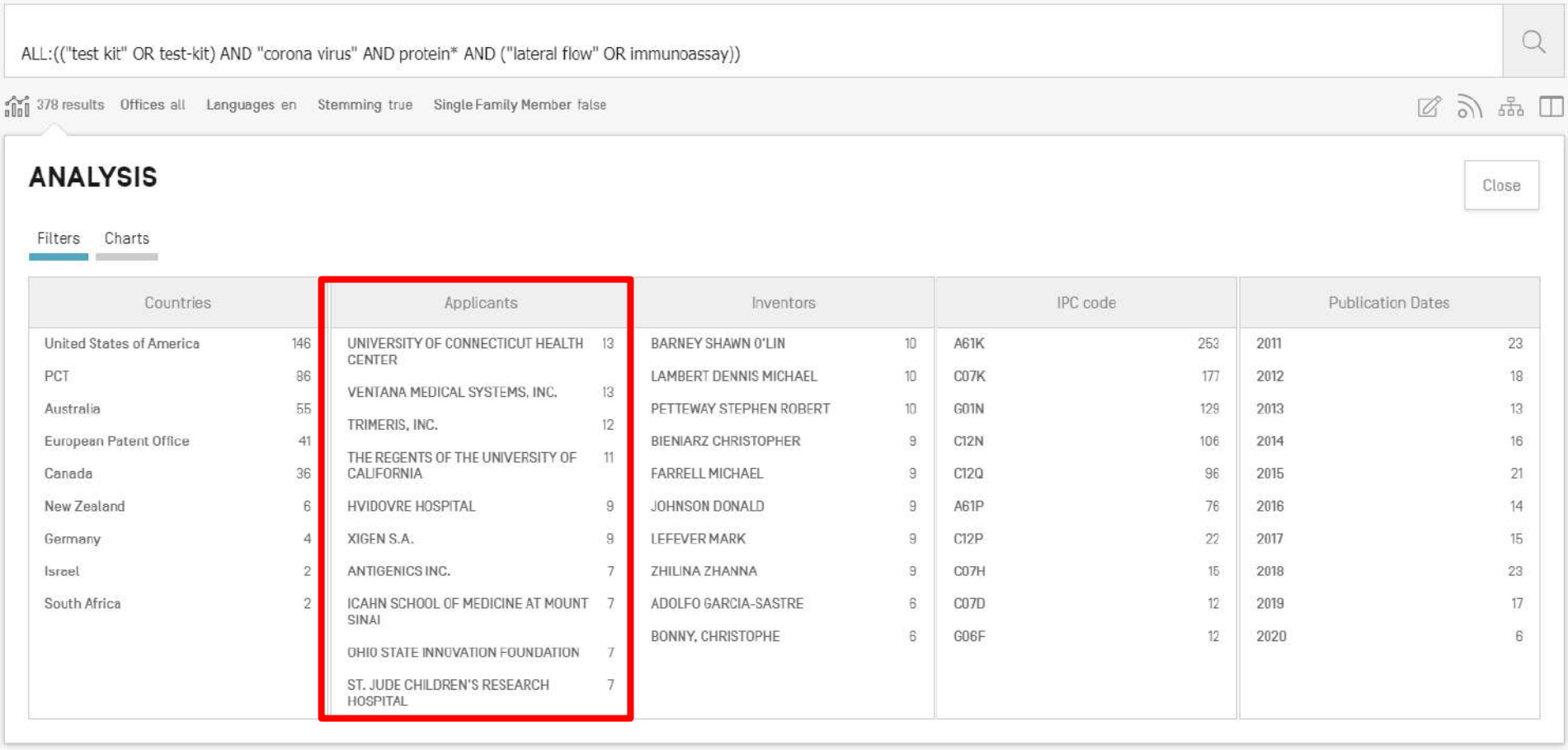

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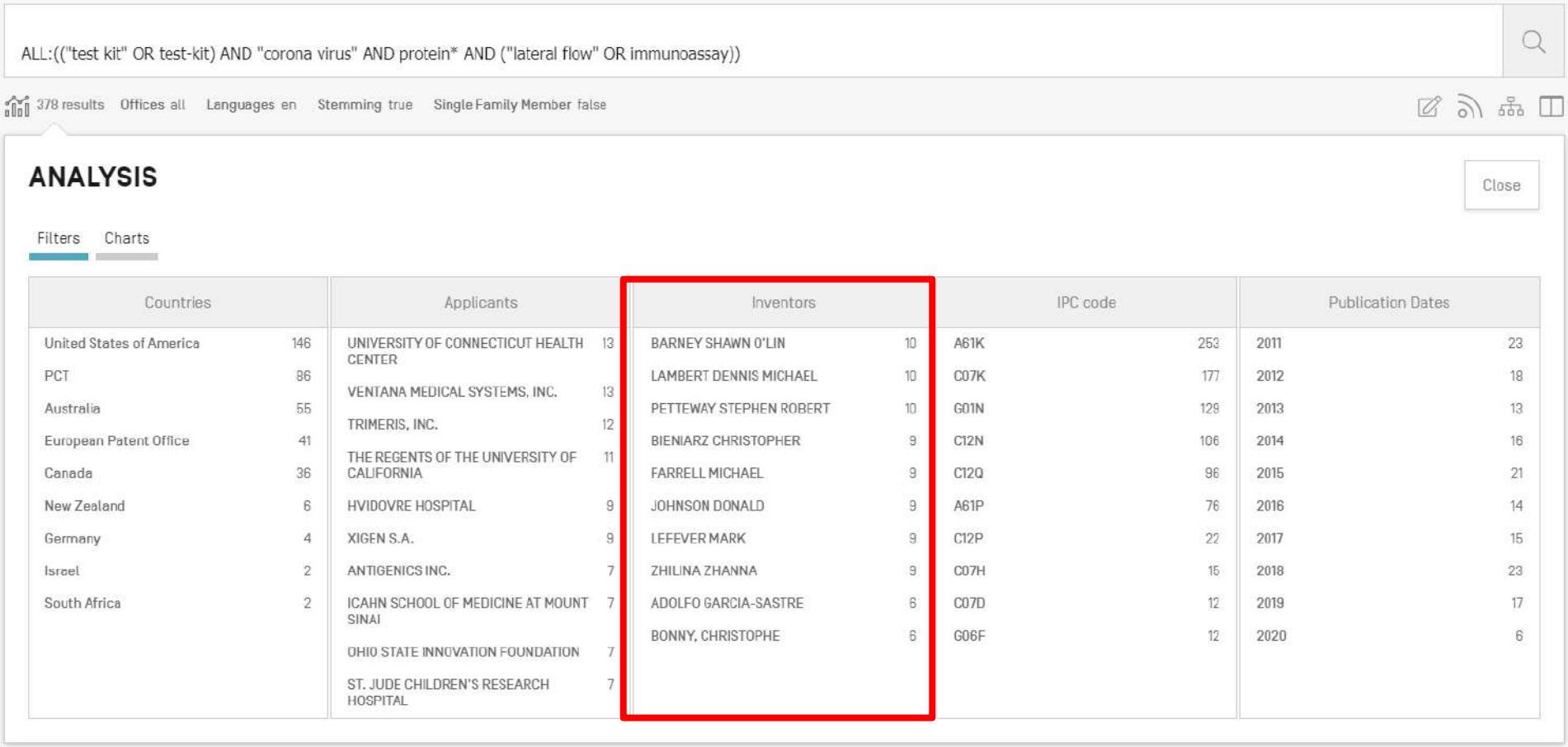

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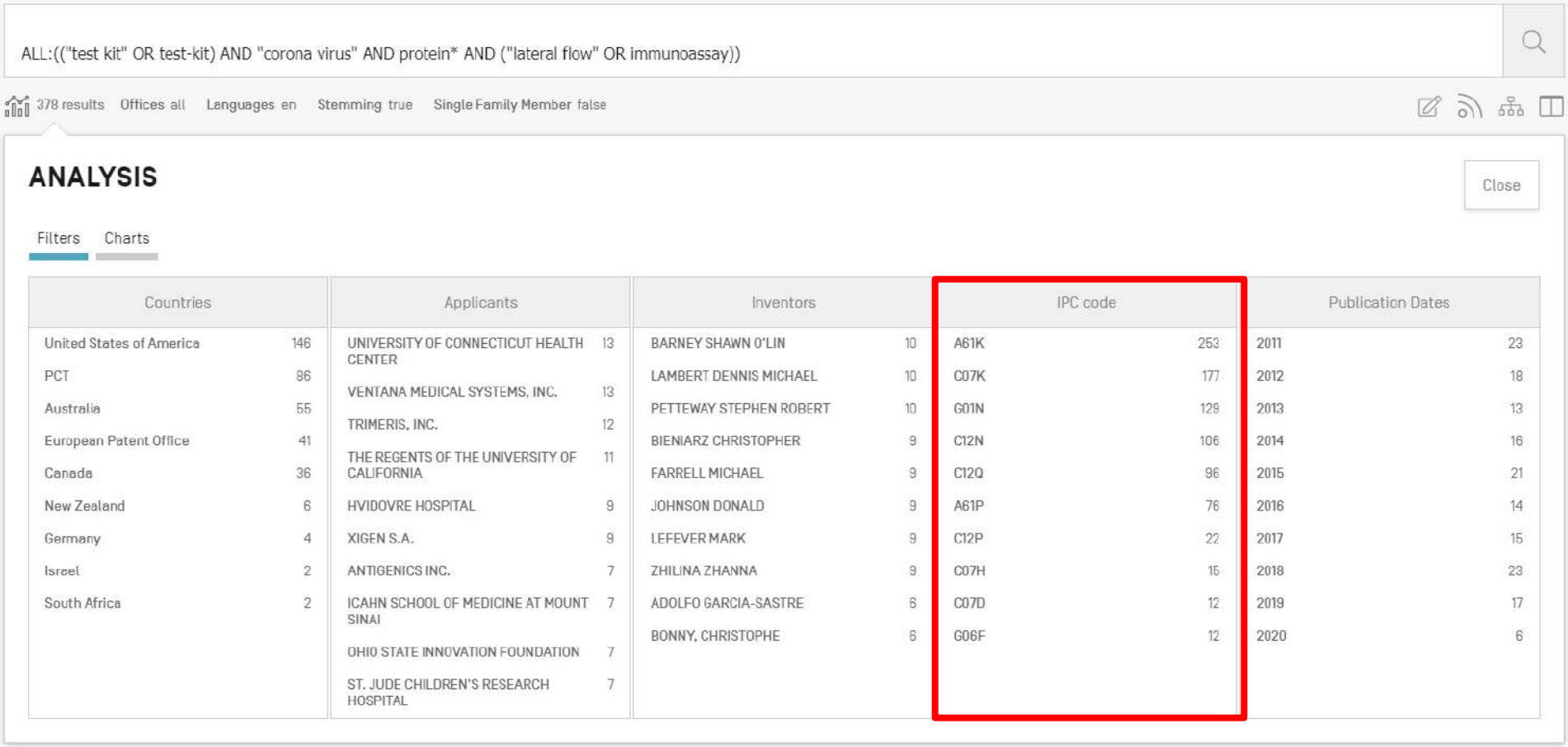

Patentscope

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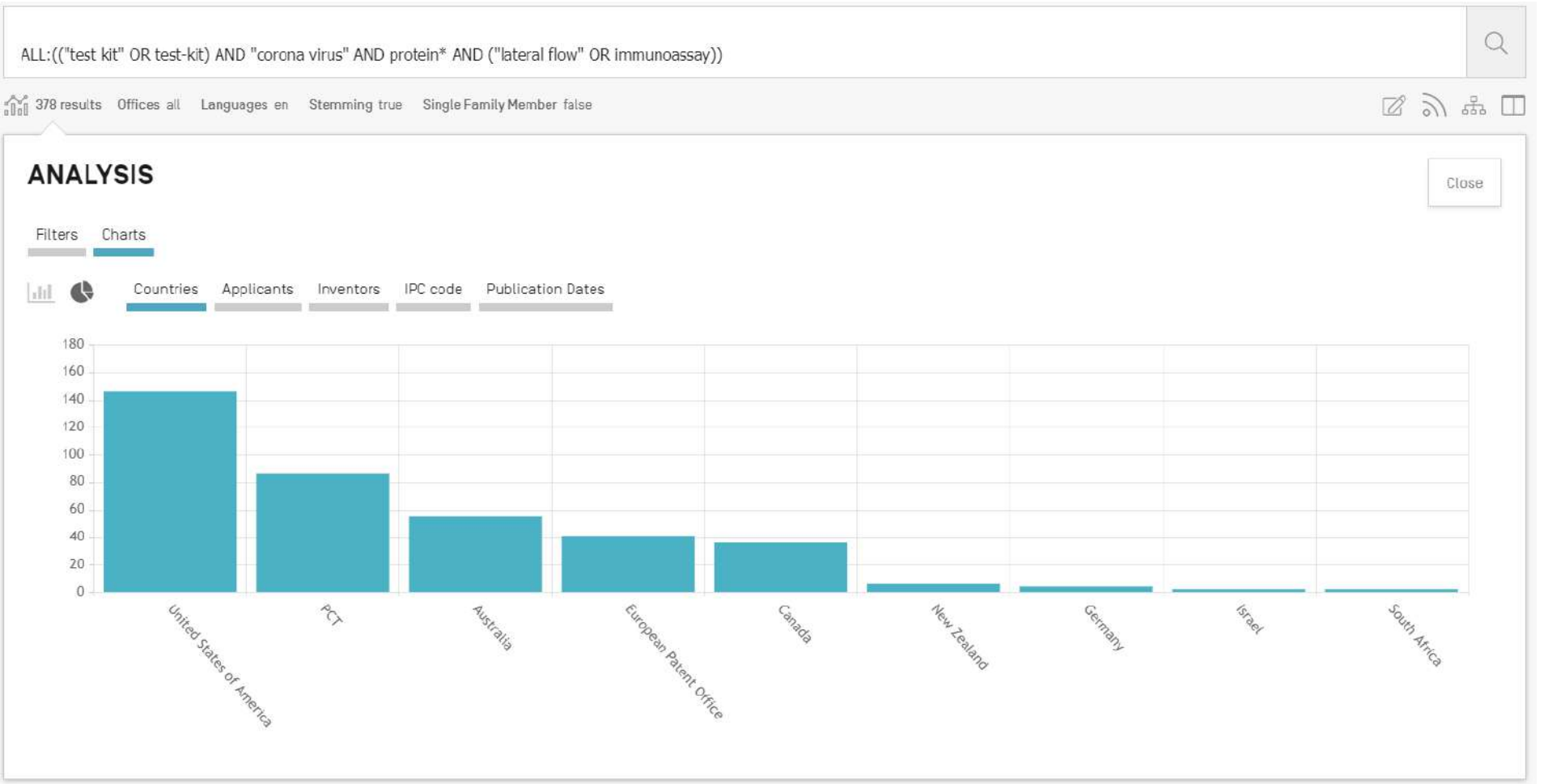

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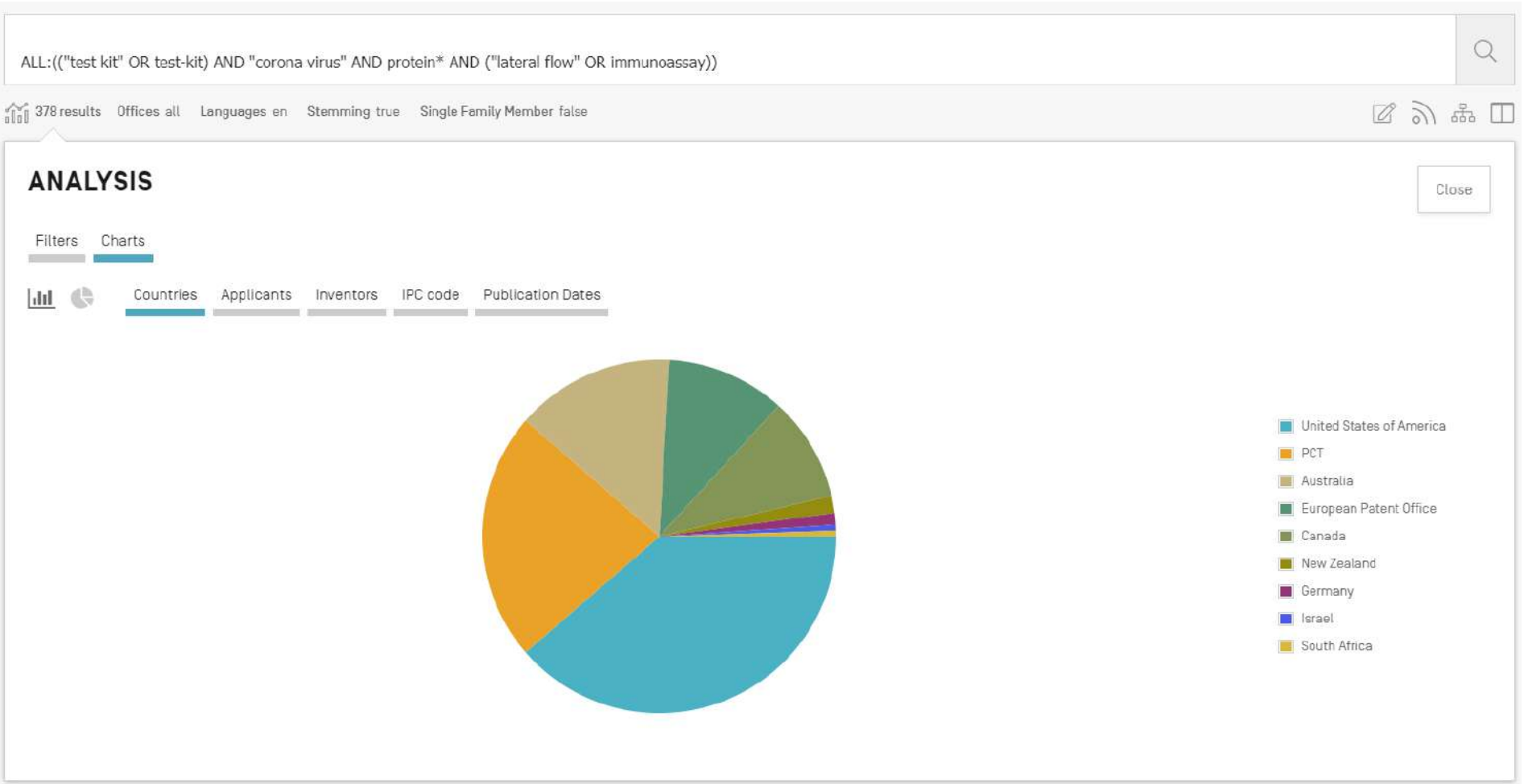

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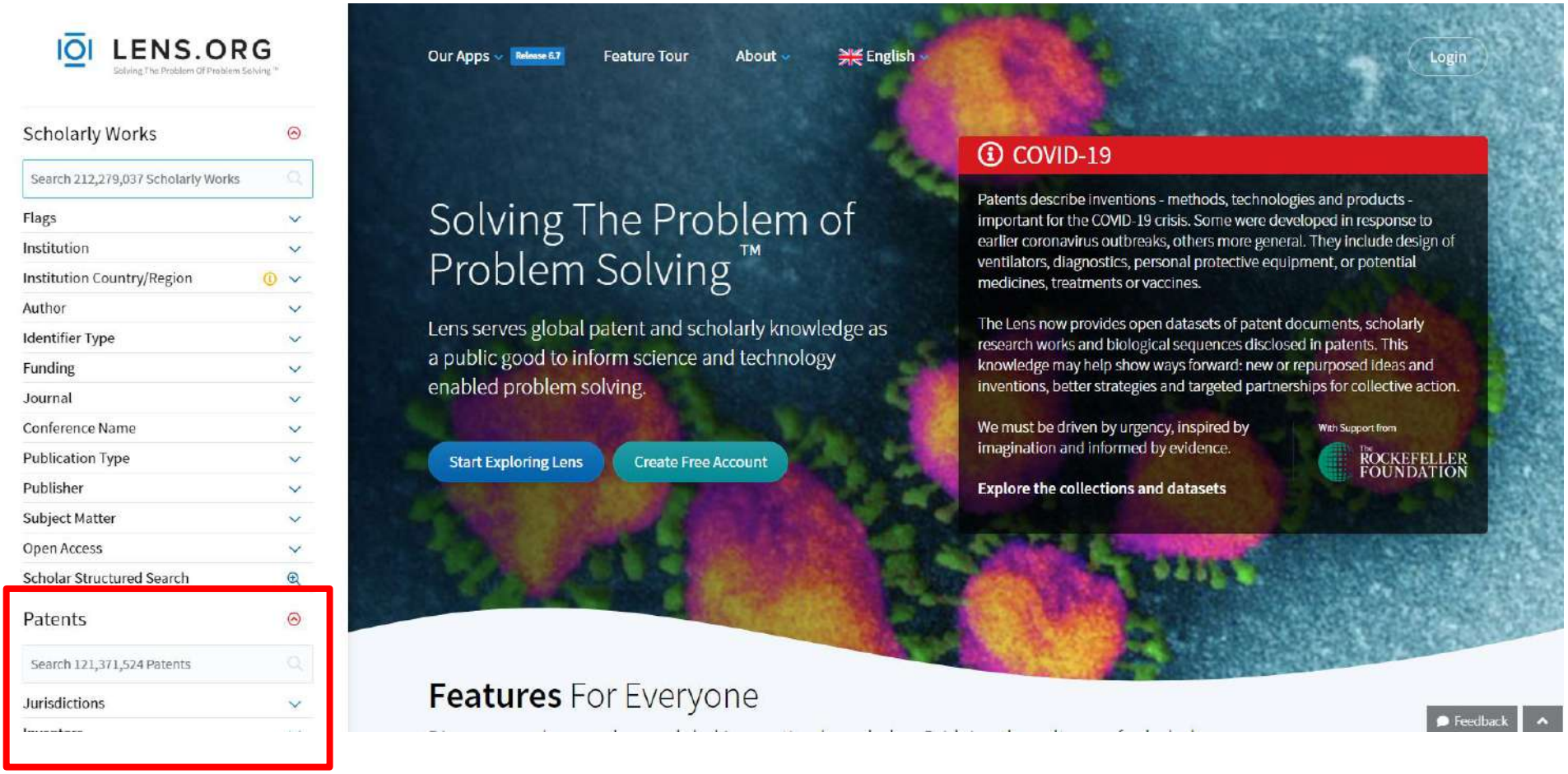
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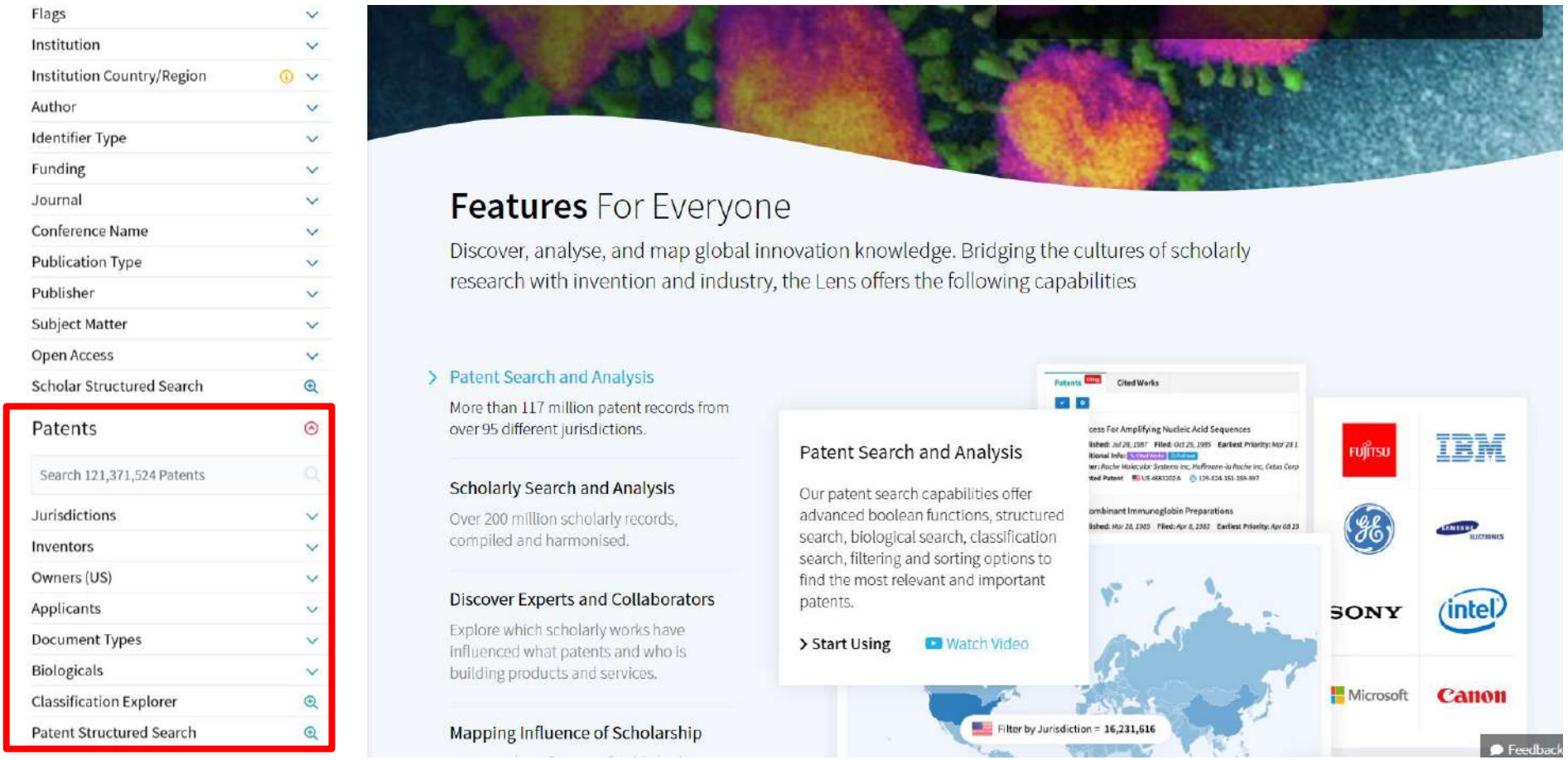

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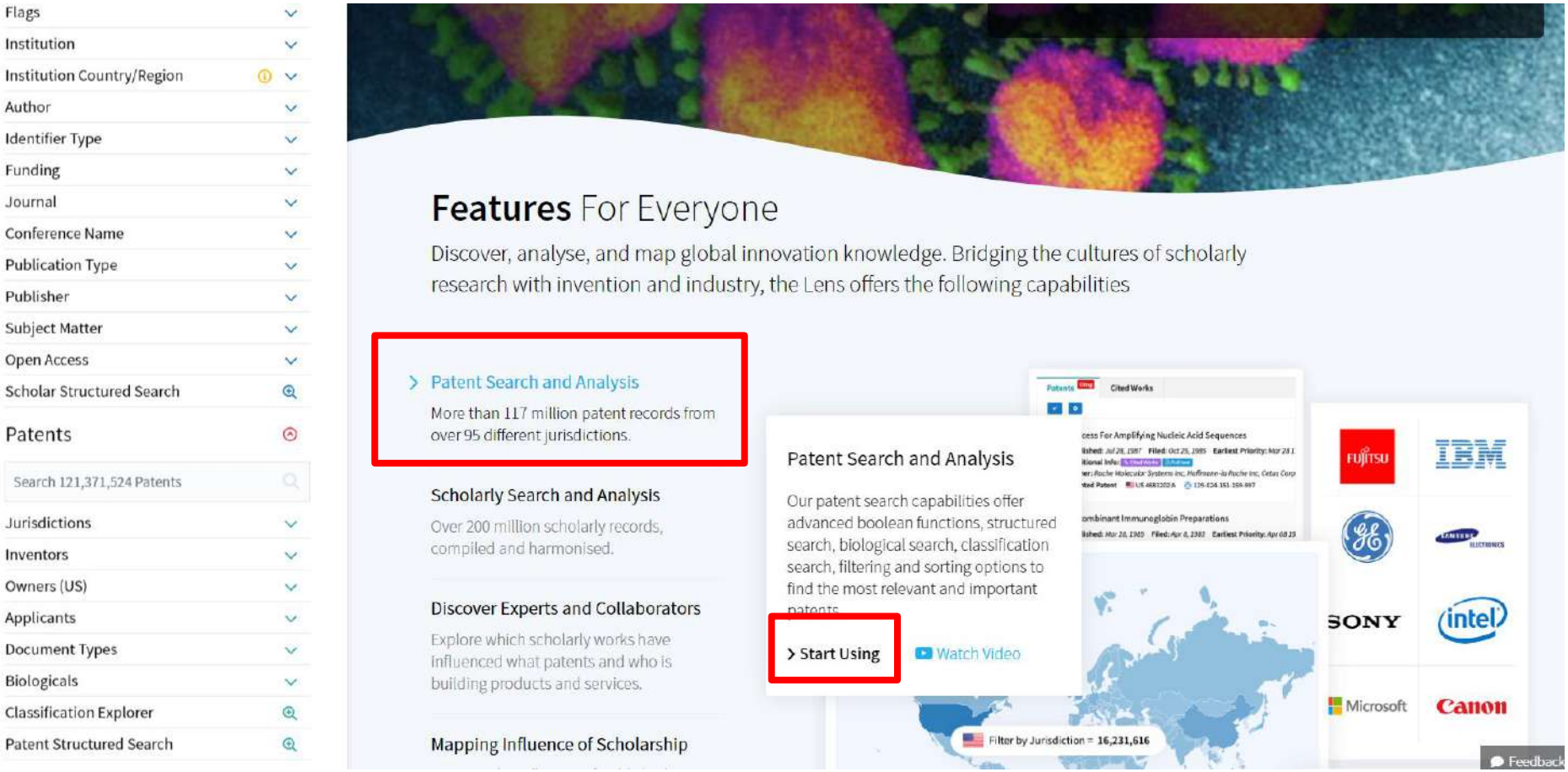
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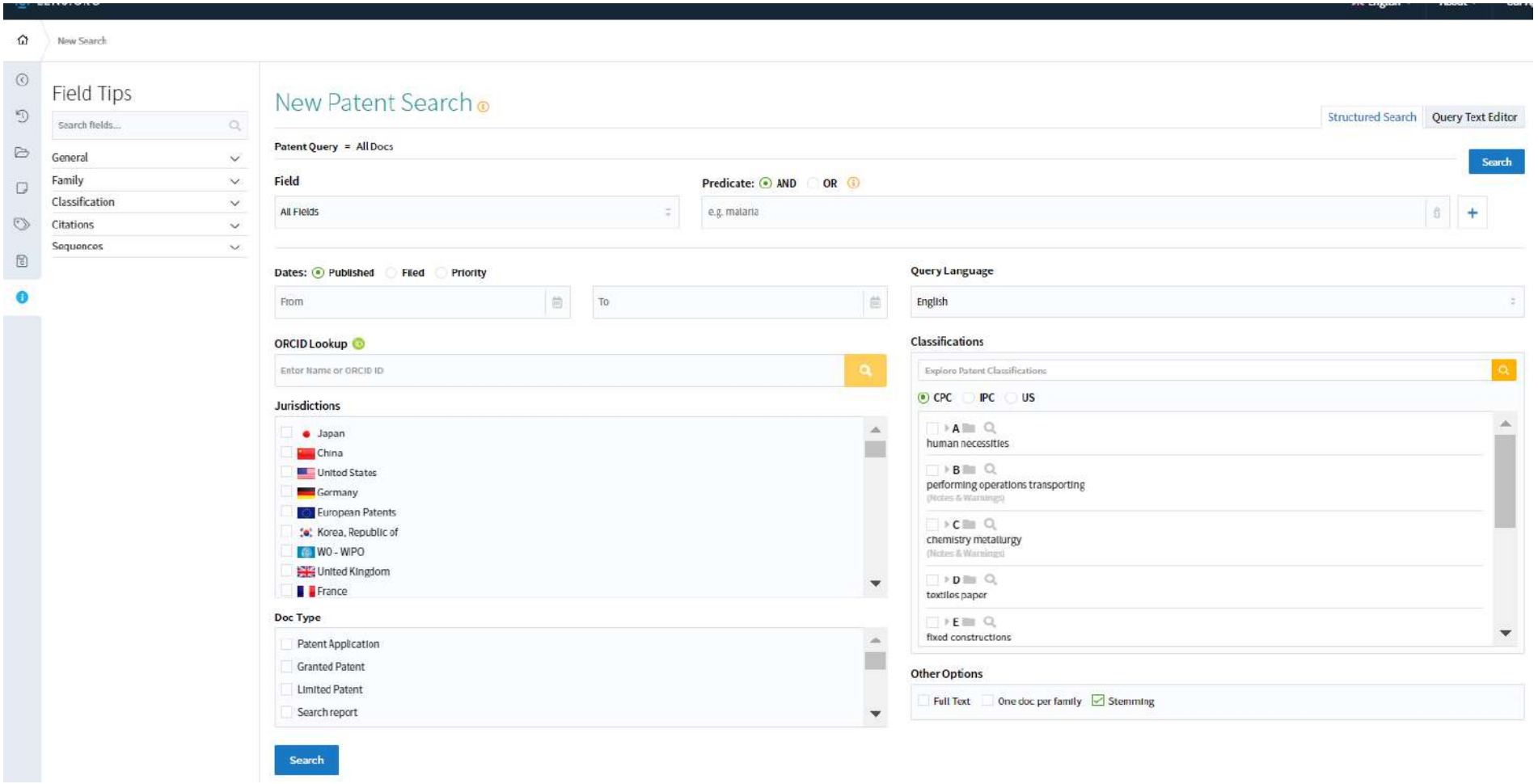
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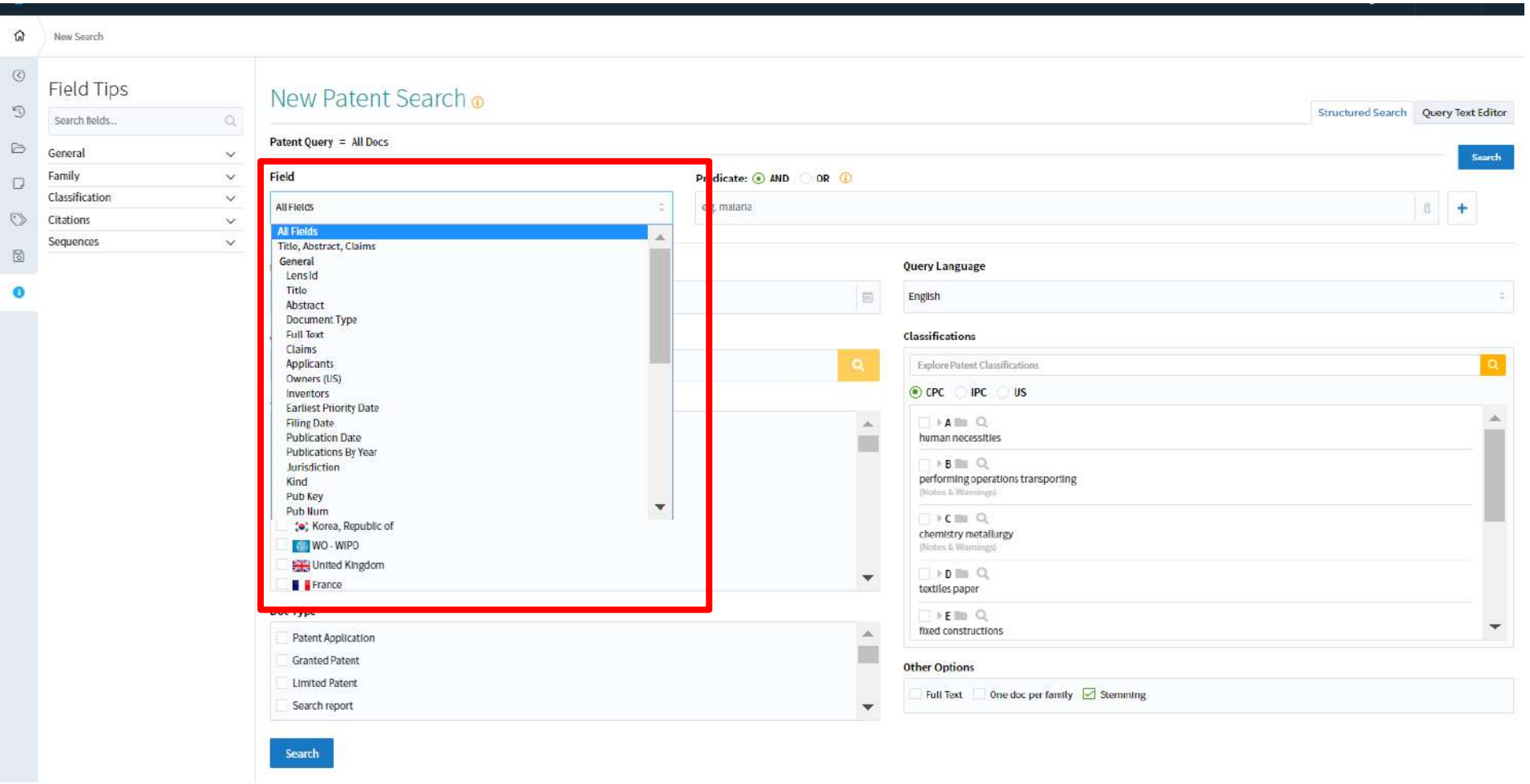
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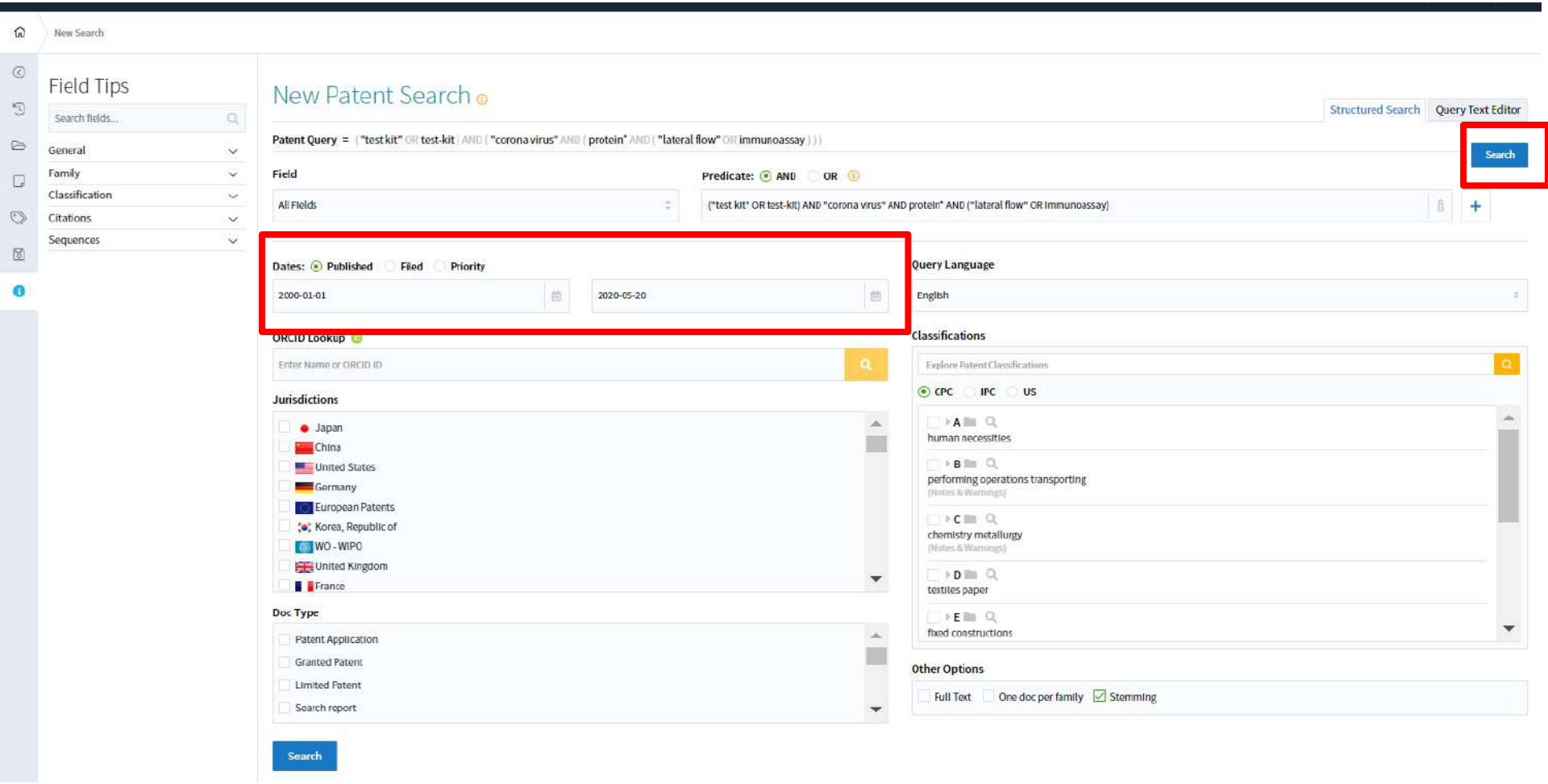
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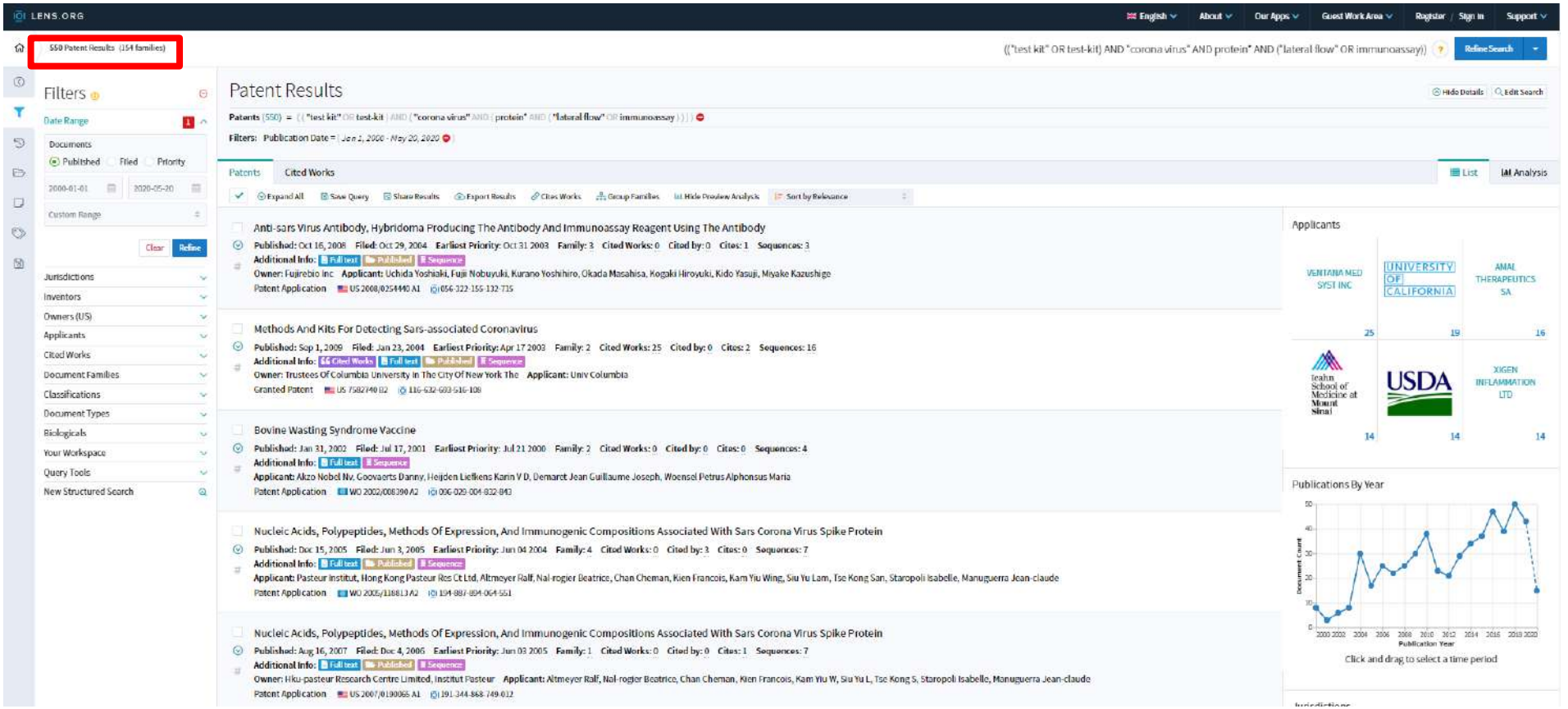
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Anti-sars Virus Antibody, Hybridoma Producing The Antibody And Immunoassay Reagent Using The Antibody
Published: Oct 16, 2008 Filed: Oct 29, 2004 Earliest Priority: Oct 31 2003 Family: 3 Cited Works: 0 Cited by: 0 Cites: 1 Sequences: 3
Additional Info: Full text Published Sequence
Owner: Fujirebio Inc Applicant: Uchida Yoshiaki, Fuji Nobuyuki, Kurano Yoshihiro, Okada Masahisa, Kogaki Hiroyuki, Kido Yasuji, Miyake Kazushige
Patent Application US 2008/0254440 A1 056-322-155-132-715
Methods And Kits For Detecting Sars-associated Coronavirus
Published: Sep 1, 2009 Filed: Jan 23, 2004 Earliest Priority: Apr 17 2003 Family: 2 Cited Works: 25 Cited by: 0 Cites: 2 Sequences: 16
Additional Info: Cited Works Full text Published Sequence
Owner: Trustees Of Columbia University In The City Of New York The Applicant: Univ Columbia
Granted Patent US 7582740 B2 116-632-693-516-108
Bovine Wasting Syndrome Vaccine
Published: Jan 31, 2002 Filed: Jul 17, 2001 Earliest Priority: Jul 21 2000 Family: 2 Cited Works: 0 Cited by: 0 Cites: 0 Sequences: 4
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Applicant: Akzo Nobel Nv, Goovaerts Danny, Heijden Liefkens Karin V D, Demarcq Jean Guillaume Joseph, Woensel Petrus Alphonsus Maria
Patent Application WO 2002/008390 A2 006-029-004-832-843
Nucleic Acids, Polypeptides, Methods Of Expression, And Immunogenic Compositions Associated With Sars Corona Virus Spike Protein
Published: Dec 15, 2005 Filed: Jun 3, 2005 Earliest Priority: Jun 04 2004 Family: 4 Cited Works: 0 Cited by: 3 Cites: 0 Sequences: 7
Additional Info: Full text Published Sequence
Applicant: Pasteur Institut, Hong Kong Pasteur Res Ct Ltd, Altmeyer Ralf, Nal-rogier Beatrice, Chan Cheman, Kien Francois, Kam Yiu Wing, Siu Yu Lam, Tse Kong San, Staropoli Isabelle, Manuguerra Jean-claude
Patent Application WO 2005/118813 A2 194-887-894-064-551
Nucleic Acids, Polypeptides, Methods Of Expression, And Immunogenic Compositions Associated With Sars Corona Virus Spike Protein
Published: Aug 16, 2007 Filed: Dec 4, 2006 Earliest Priority: Jun 03 2005 Family: 1 Cited Works: 0 Cited by: 0 Cites: 1 Sequences: 7
Additional Info: Full text Published Sequence
Owner: Hku-pasteur Research Centre Limited, Institut Pasteur Applicant: Altmeyer Ralf, Nal-rogier Beatrice, Chan Cheman, Kien Francois, Kam Yiu W, Siu Yu L, Tse Kong S, Staropoli Isabelle, Manuguerra Jean-claude
Patent Application US 2007/0190065 A1 191-344-868-749-012
Applicants
VENTANA MED SYST INC 25
UNIVERSITY OF CALIFORNIA 19
AMAL THERAPEUTICS SA 16
Icahn School of Medicine at Mount Sinai 14
USDA 14
XIGEN INFLAMMATION LTD 14
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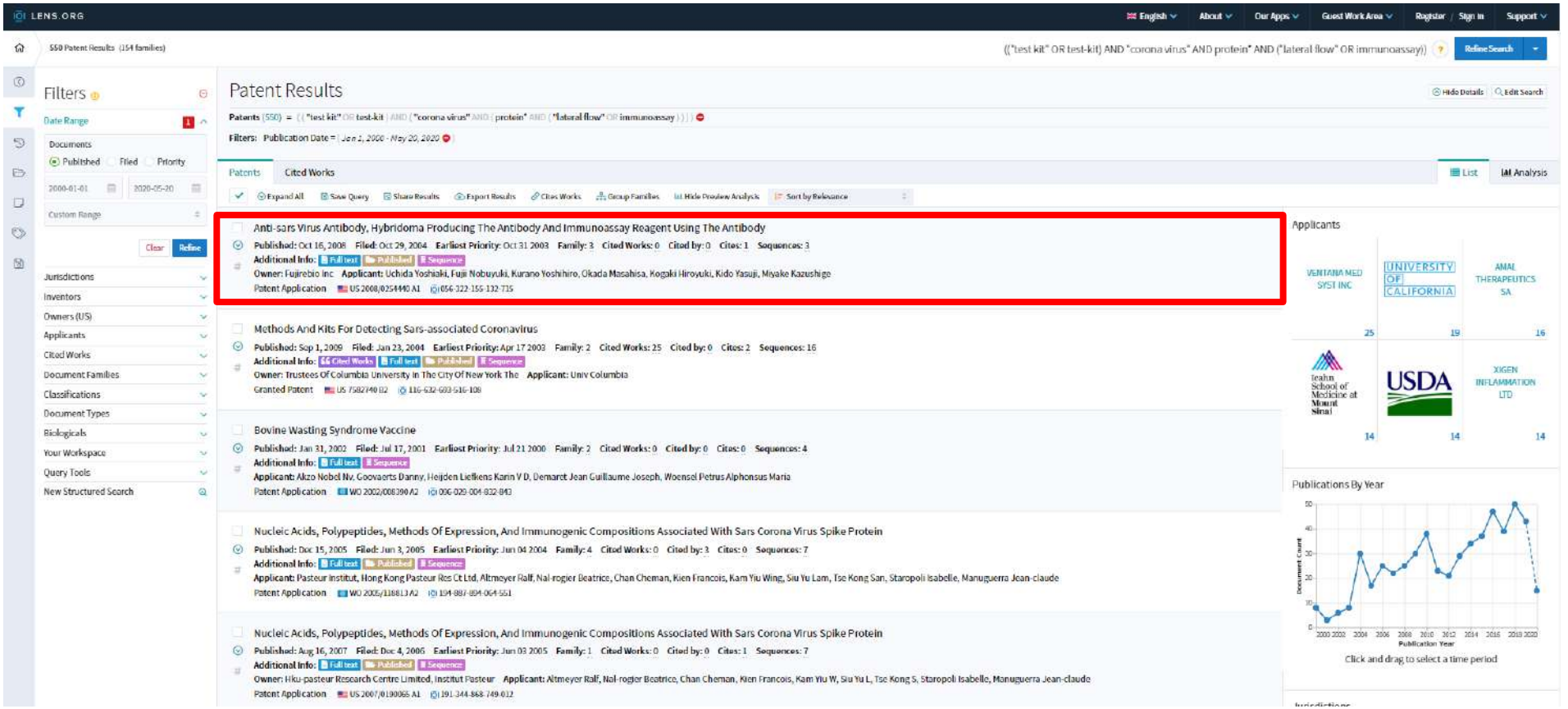
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Owner: Fujirebio Inc Applicant: Uchida Yoshiaki, Fuji Nobuyuki, Kurano Yoshihiro, Okada Masahisa, Kogaki Hiroyuki, Kido Yasuji, Miyake Kazushige
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Applicant: Pasteur Institut, Hong Kong Pasteur Res Ct Ltd, Altmeyer Ralf, Nal-rogier Beatrice, Chan Cheman, Kien Francois, Kam Yiu Wing, Siu Yu Lam, Tse Kong San, Staropoli Isabelle, Manuguerra Jean-claude
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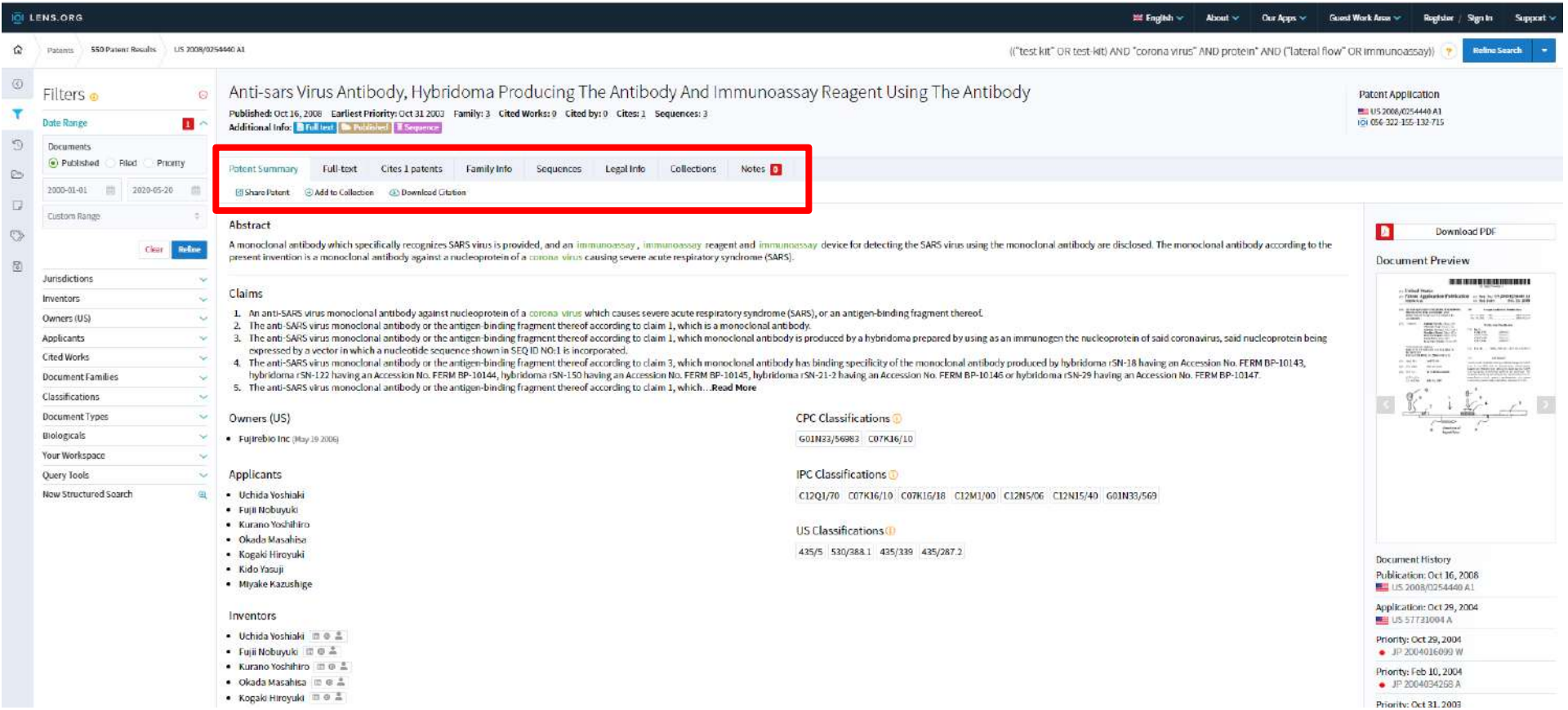
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A monoclonal antibody which specifically recognizes SARS virus is provided, and an immunoassay, immunoassay reagent and immunoassay device for detecting the SARS virus using the monoclonal antibody are disclosed. The monoclonal antibody according to the present invention is a monoclonal antibody against a nucleoprotein of a corona virus causing severe acute respiratory syndrome (SARS).
Claims
1. An anti-SARS virus monoclonal antibody against nucleoprotein of a corona virus which causes severe acute respiratory syndrome (SARS), or an antigen-binding fragment thereof.
2. The anti-SARS virus monoclonal antibody or the antigen-binding fragment thereof according to claim 1, which is a monoclonal antibody.
3. The anti-SARS virus monoclonal antibody or the antigen-binding fragment thereof according to claim 1, which monoclonal antibody is produced by a hybridoma prepared by using as an immunogen the nucleoprotein of said coronavirus, said nucleoprotein being expressed by a vector in which a nucleotide sequence shown in SEQ ID NO:1 is incorporated.
4. The anti-SARS virus monoclonal antibody or the antigen-binding fragment thereof according to claim 3, which monoclonal antibody has binding specificity of the monoclonal antibody produced by hybridoma rSN-18 having an Accession No. FERM BP-10143, hybridoma rSN-122 having an Accession No. FERM BP-10144, hybridoma rSN-150 having an Accession No. FERM BP-10145, hybridoma rSN-21-2 having an Accession No. FERM BP-10146 or hybridoma rSN-29 having an Accession No. FERM BP-10147.
5. The anti-SARS virus monoclonal antibody or the antigen-binding fragment thereof according to claim 1, which...Read More
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Kogaki Hiroyuki
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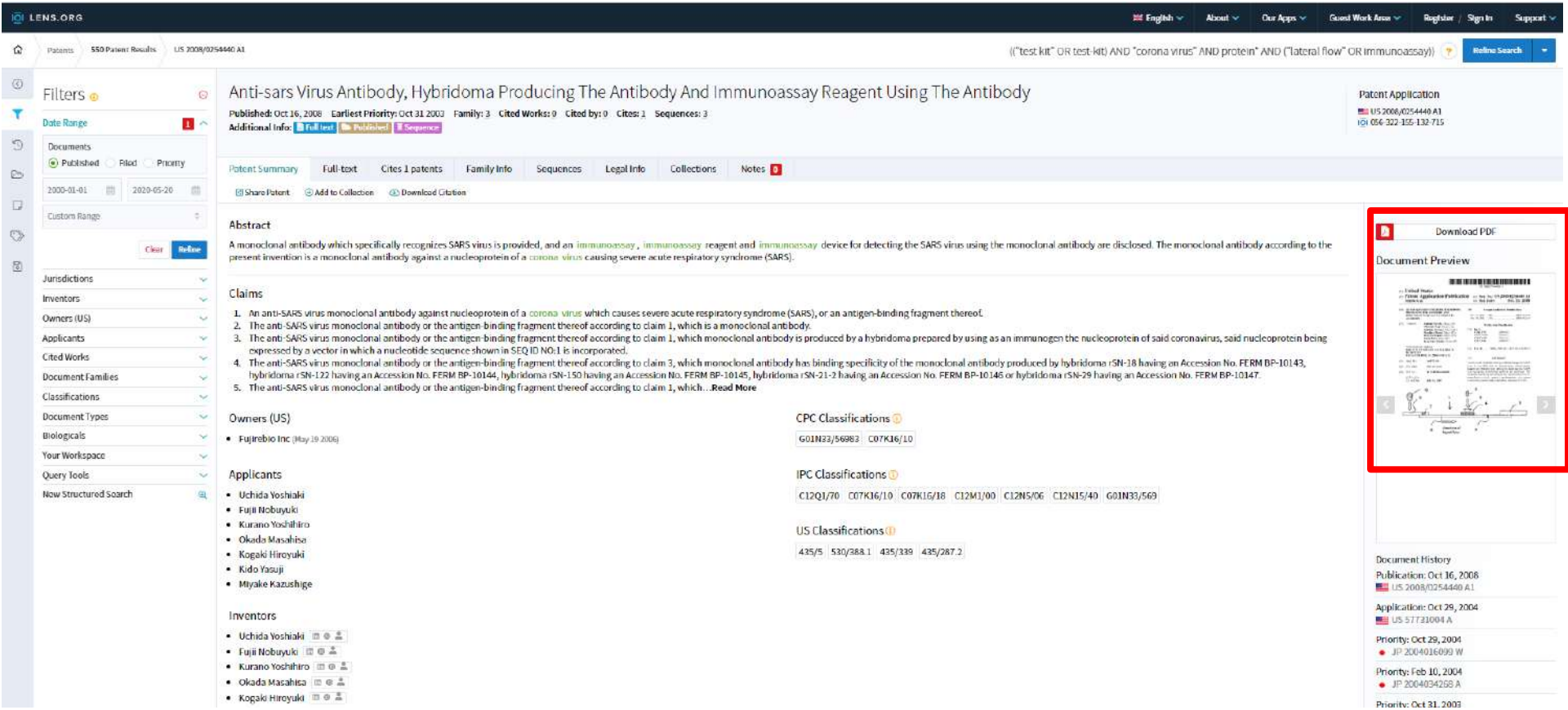
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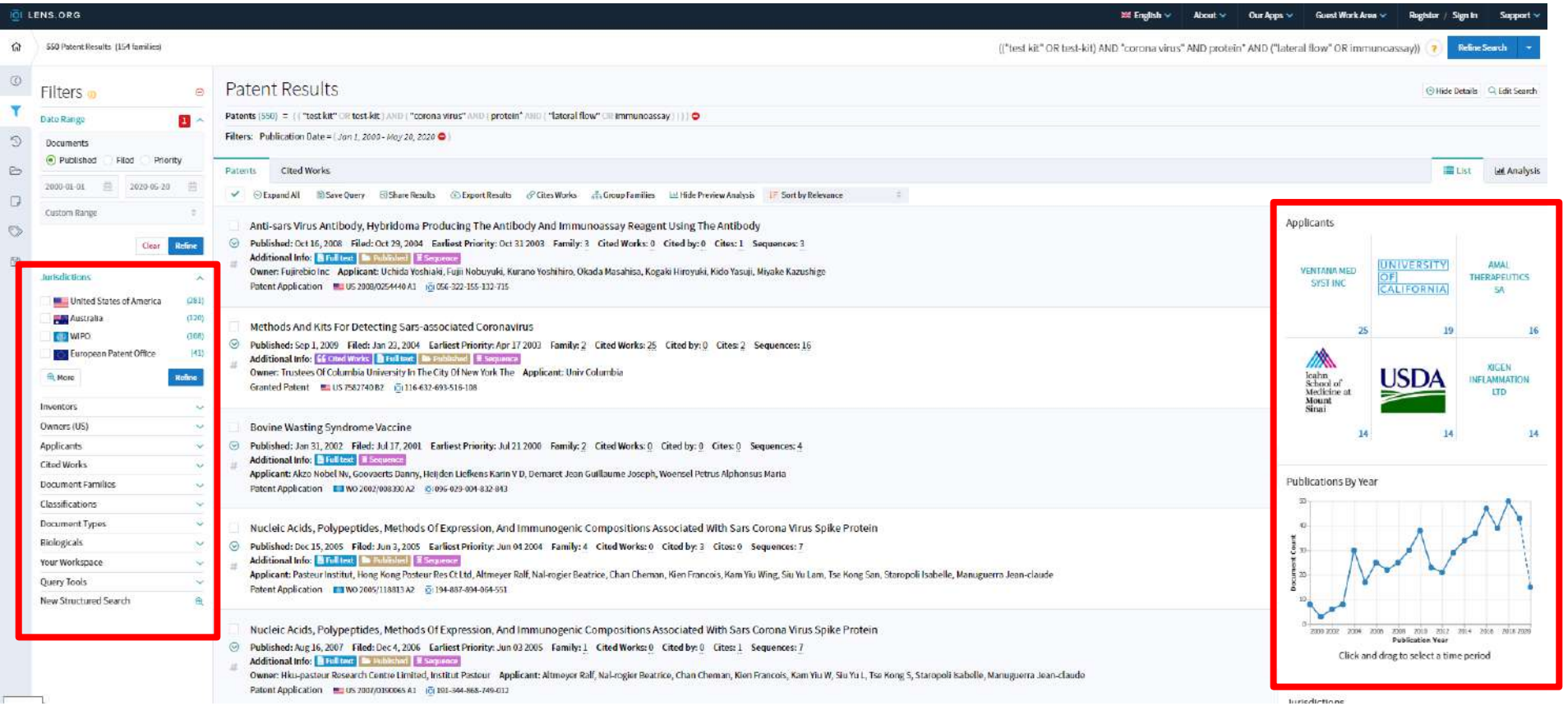
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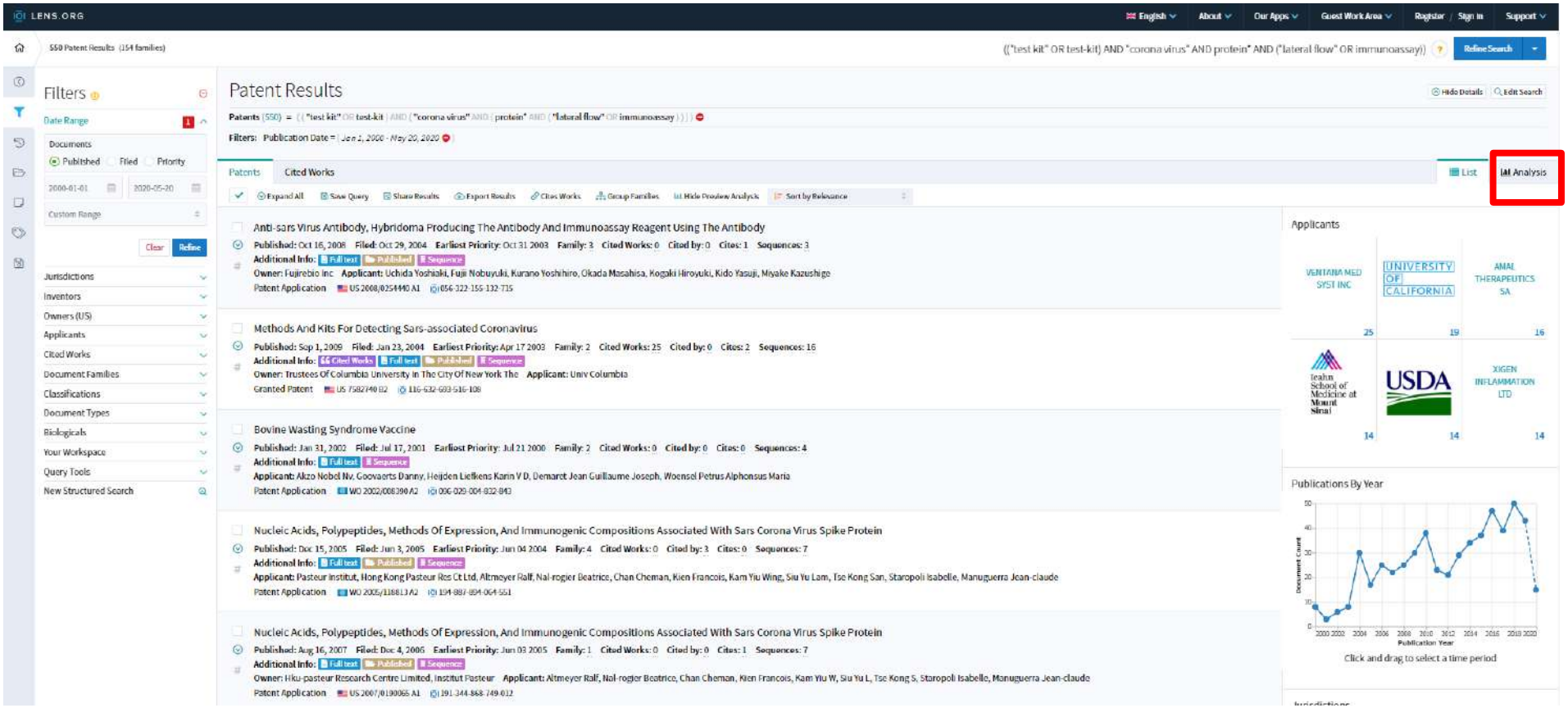
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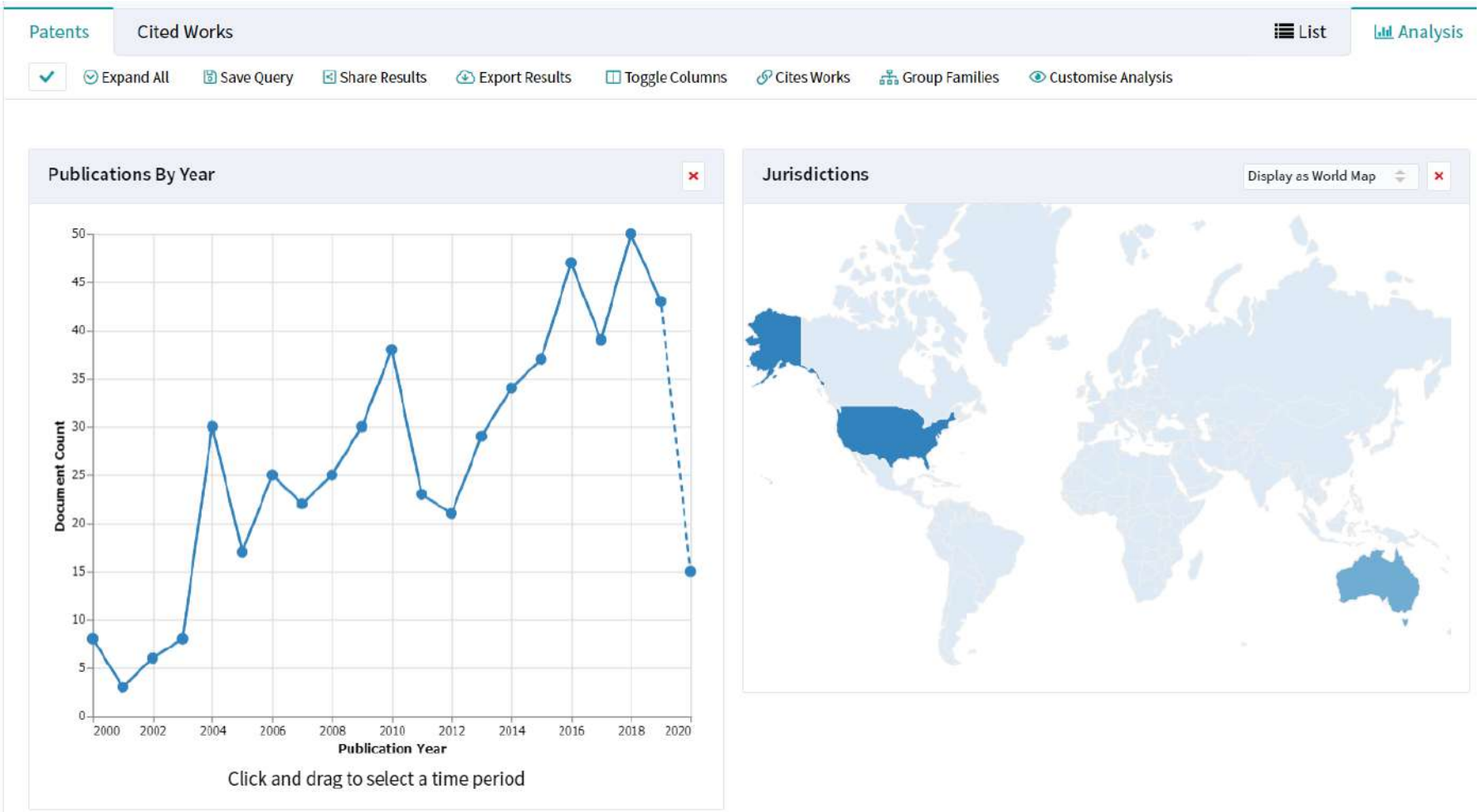
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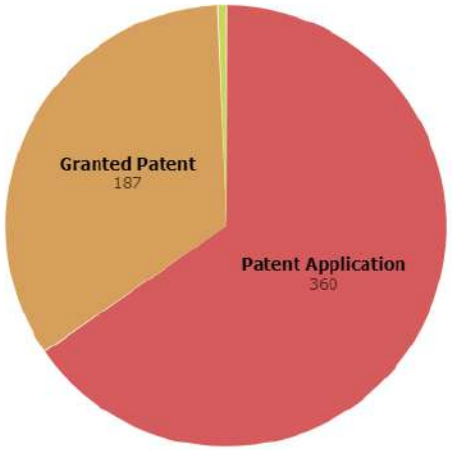

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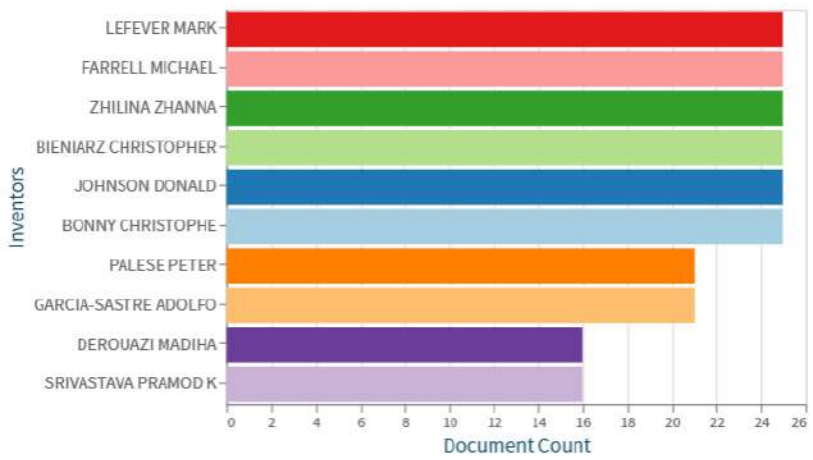

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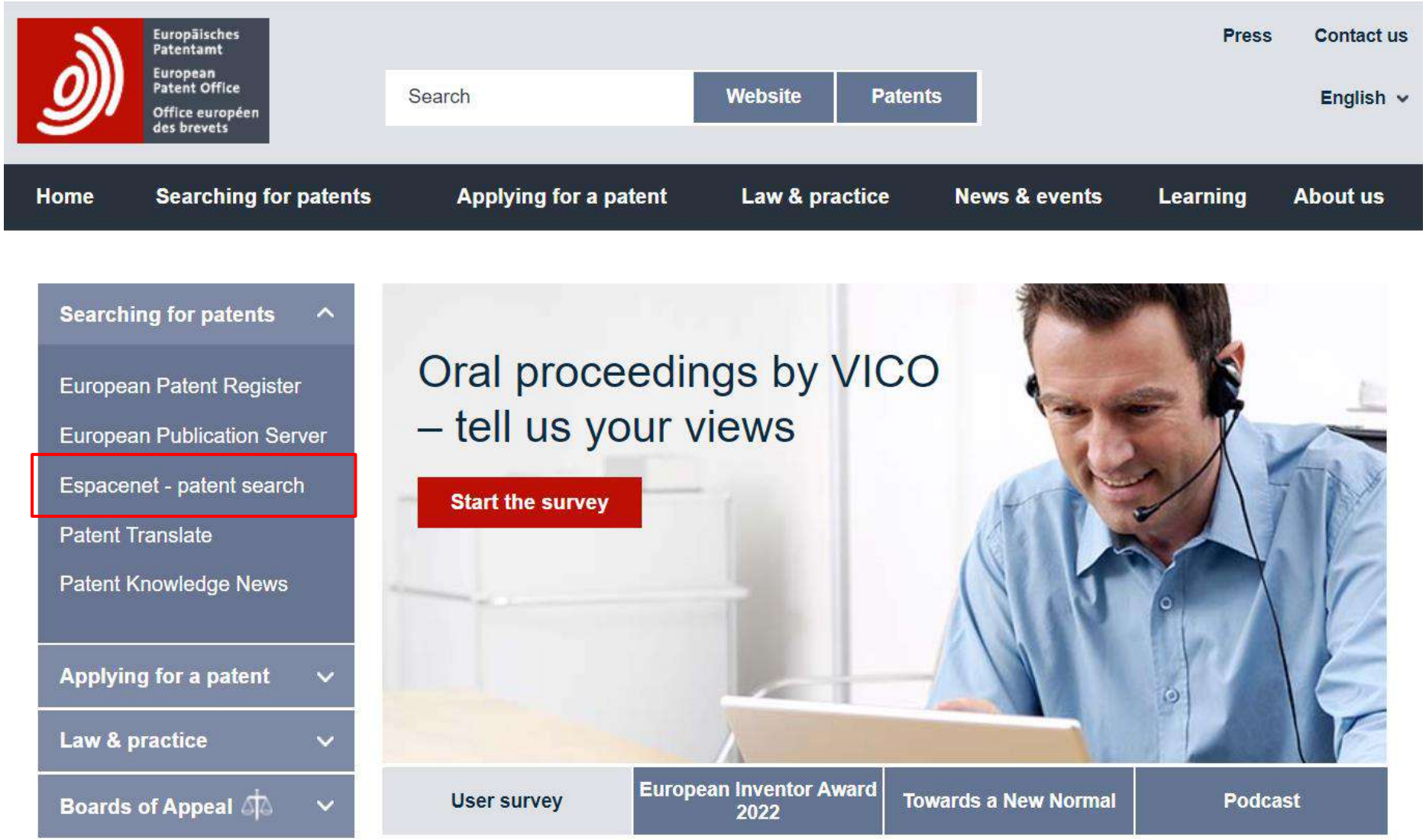
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B PERFORMING OPERATIONS; TRANSPORTING
C CHEMISTRY; METALLURGY
D TEXTILES; PAPER
E FIXED CONSTRUCTIONS
F MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING ENGINES OR PUMPS
G PHYSICS
H ELECTRICITY
Y GENERAL TAGGING OF NEW TECHNOLOGICAL DEVELOPMENTS; 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

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test-kit and virus in the title or abstract

1

Sort by Publication date | Sort order Descending | Sort

	Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
1. Porcine epidemic diarrhea virus (PEDV) antibody test strip	LI DUAN YANG JINYI (+6)	XINXING COUNTY GUOYAN TECH CO LTD WENS FOODSTUFF GROUP CO LTD		G01N33/531 G01N33/569 G01N33/68	CN109856405 (A) 2019-06-07	2018-12-21
2. Method for detecting multiple typing of viruses and test kit thereof	LIU QI LIANG TING (+5)	DALIAN GENTALKER BIOLOGY TECH CO LTD		C12Q1/70 C12R1/93	CN109777887 (A) 2019-05-21	2017-11-13
3. Immunomagnetic-bead-included indirect ELISA kit for detecting IBDV antibody and application thereof	Inventor:	Applicant:	CPC:	IPC:	Publication info:	Prior

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- Why do I sometimes find the abstract of a corresponding document?

Bibliographic data: CN109856405 (A) — 2019-06-07

Porcine epidemic diarrhea virus (PEDV) antibody test strip

Page bookmark	CN109856405 (A) - Porcine epidemic diarrhea virus (PEDV) antibody test strip
Inventor(s):	LI DUAN; YANG JINYI; ZENG DAOPING; WANG LEI; CAI XINBIN; SU XIAONA; ZHOU QINGFENG; PAN YONGFEI ±
Applicant(s):	XINXING COUNTY GUOYAN TECH CO LTD; WENS FOODSTUFF GROUP CO LTD ±
Classification:	**- international:** ***G01N33/531; G01N33/569; G01N33/68***
	- cooperative:
Application number:	CN201811573199 20181221 Global Dossier
Priority number(s):	CN201811573199 20181221

Abstract of CN109856405 (A)

Translate this text into

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The invention discloses a porcine epidemic diarrhea virus (PEDV) antibody test strip. A kit comprises recombinant PEDV S protein, the amino acid sequence of which is shown in SEQ ID NO: 2, and an anti-SPA antibody. By optimizing fragments of the PEDV S recombinant protein, detection sensitivity of a colloidal gold detection kit for the constructed porcine epidemic diarrhea virus antibody is greatly improved, and the detection sensitivity reaches the level of an ELISA test kit; and meanwhile, the detection kit is high in specificity, has good repeatability, is short in detection time and can detect a lot of samples simultaneously. The test strip is of important practical significar detection of porcine epizootic diarrhea antibodies in a large quantity of sample pig serum, can monitor an overall immune effect of a pi in real time by detecting the antibody level of the pig group, and provides a powerful tool for PEDV diagnosis, detection and monitorin

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Porcine epidemic diarrhea virus (PEDV) antibody test strip

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Applicant(s):	XINXING COUNTY GUOYAN TECH CO LTD; WENS FOODSTUFF GROUP CO LTD +
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	- cooperative:
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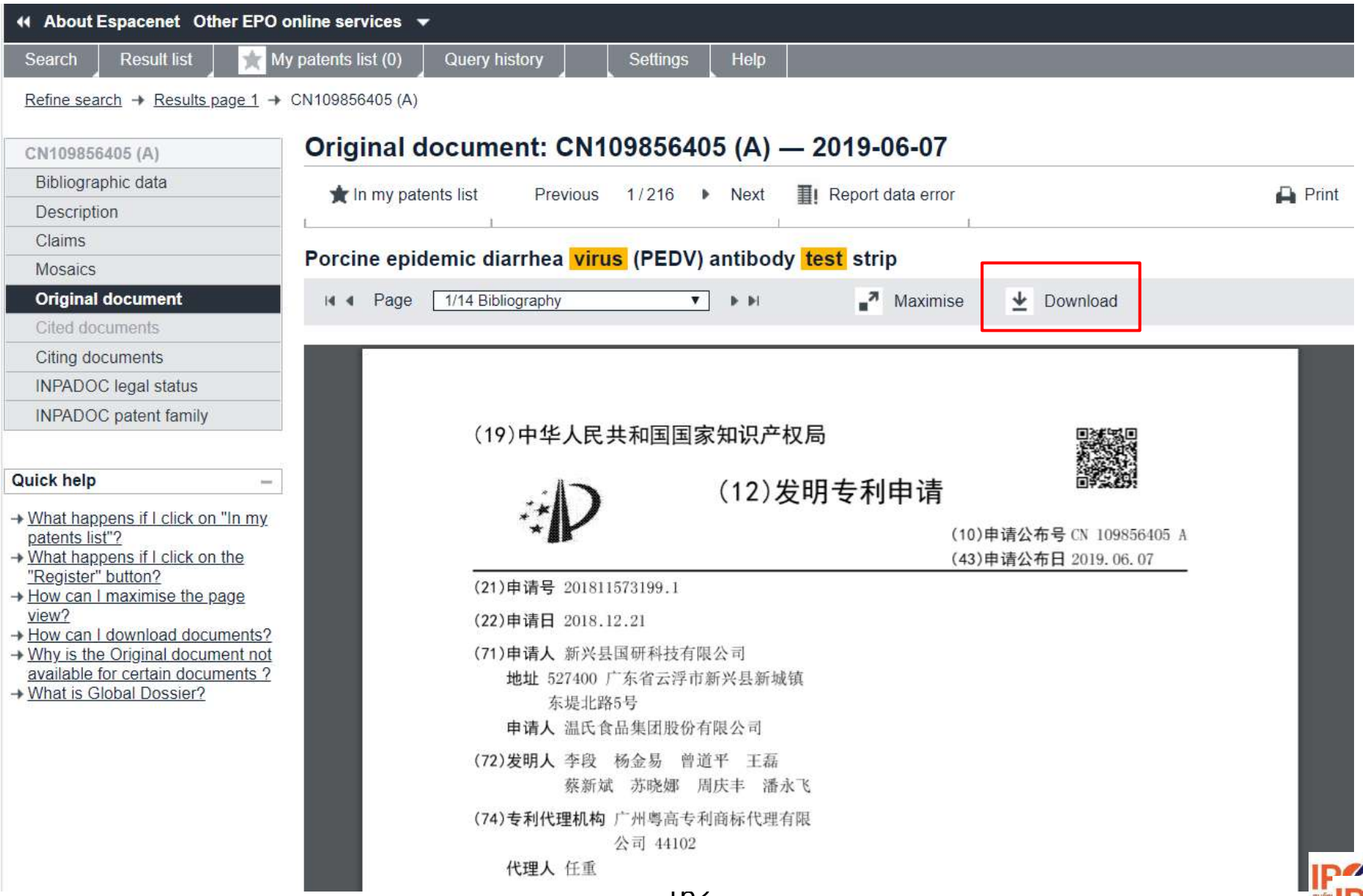
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(43)申请公布日 2019.06.07
(21)申请号 201811573199.1
(22)申请日 2018.12.21
(71)申请人 新兴县国研科技有限公司
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申请人 温氏食品集团股份有限公司
(72)发明人 李段 杨金易 曾道平 王磊 蔡新斌 苏晓娜 周庆丰 潘永飞
(74)专利代理机构 广州粤高专利商标代理有限公司 44102
代理人 任重

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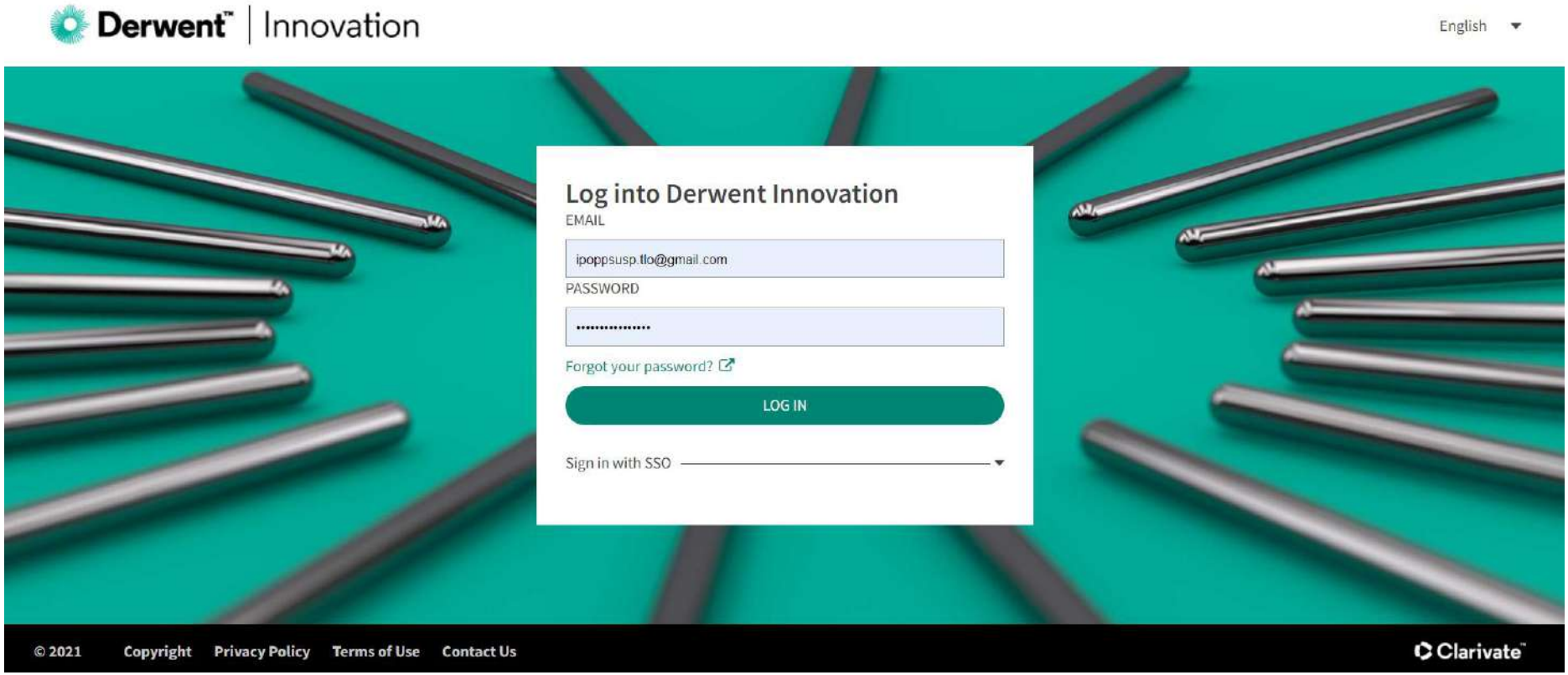

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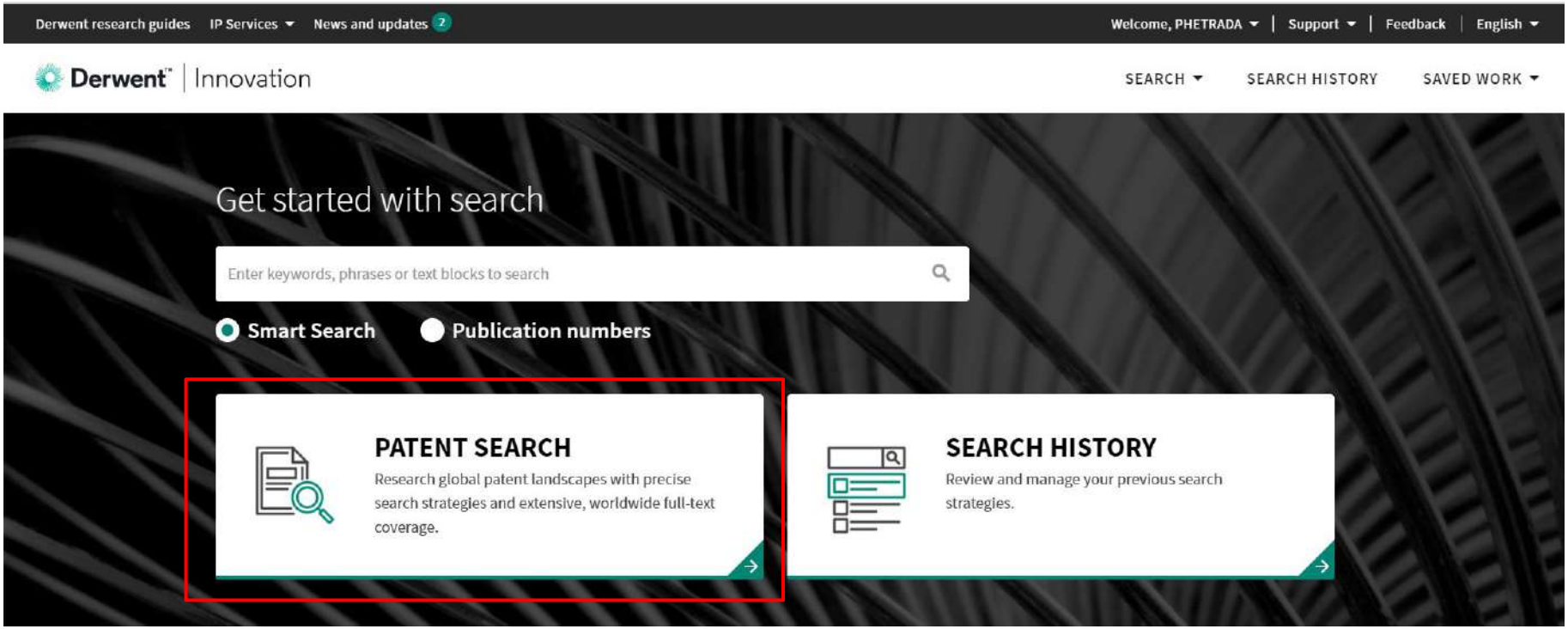

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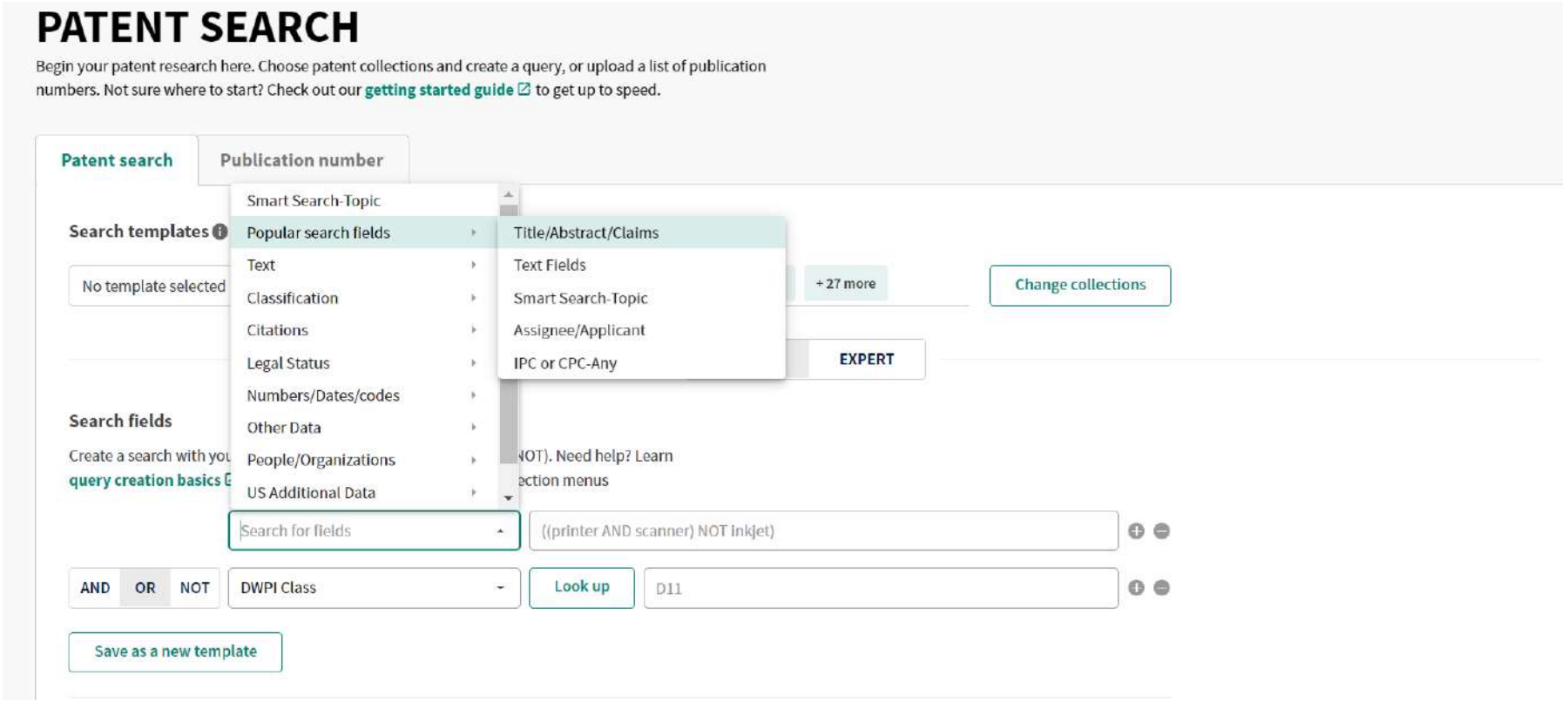

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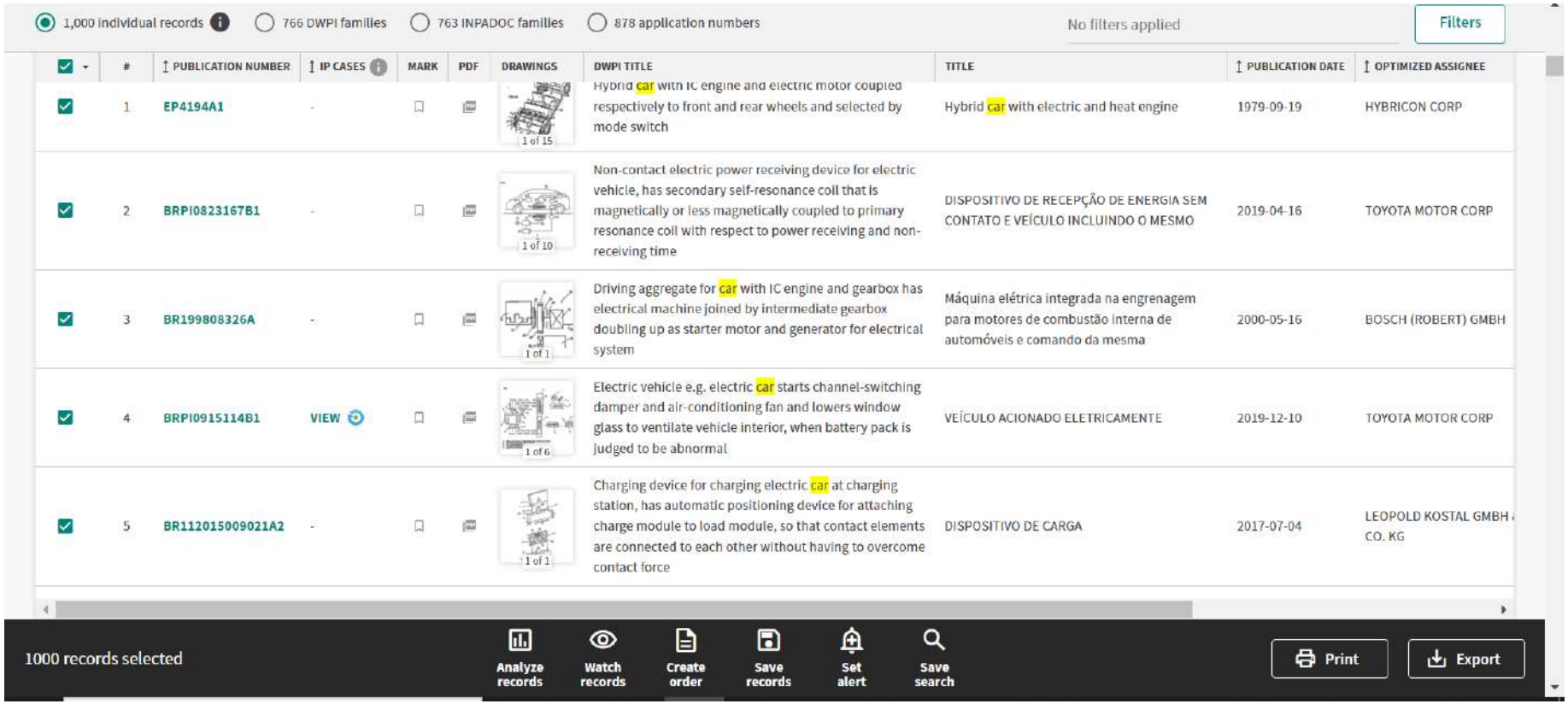

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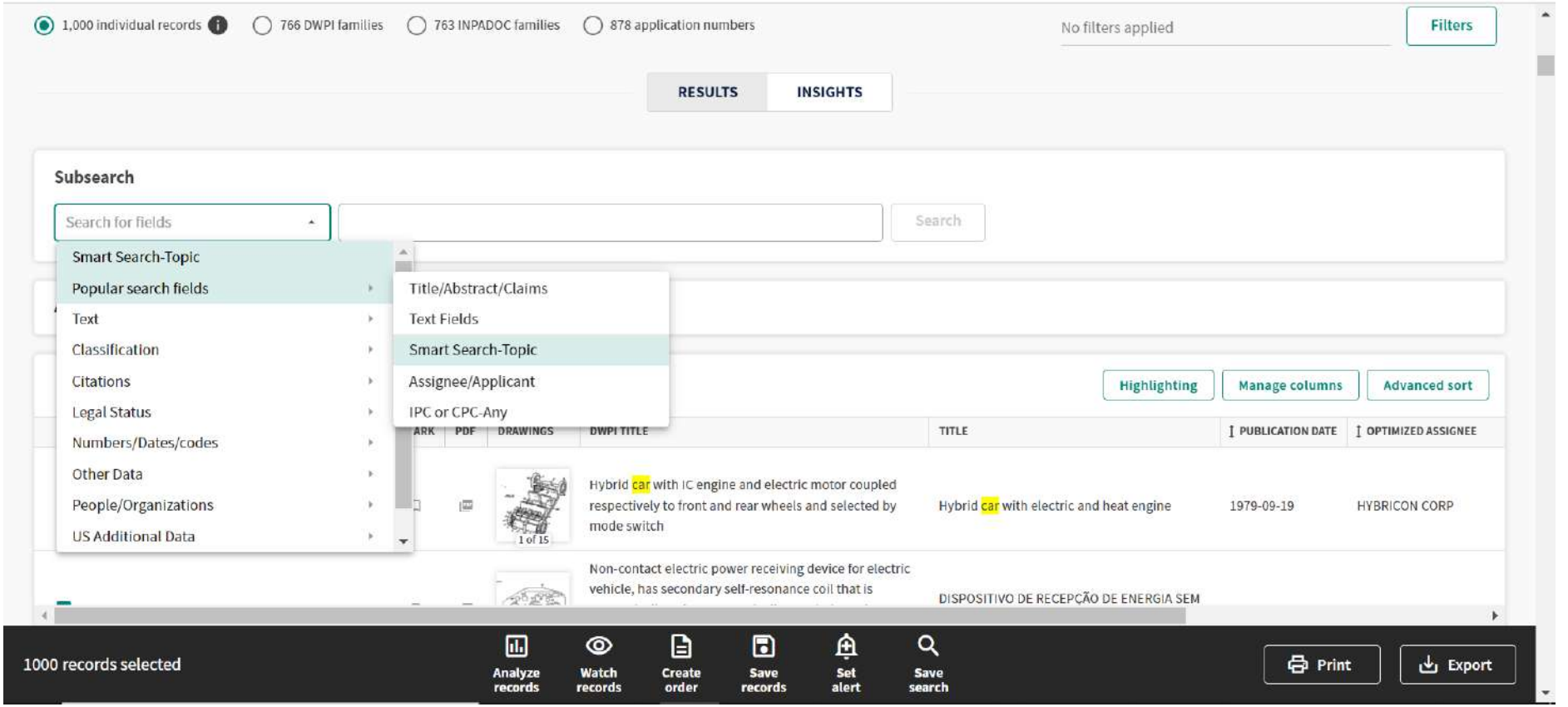

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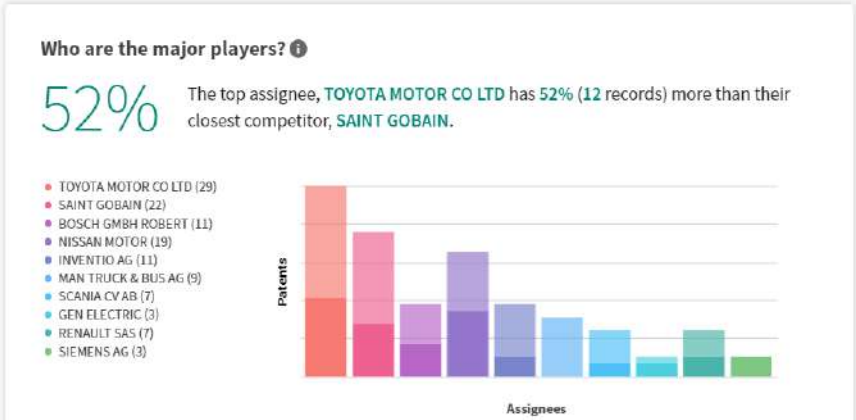

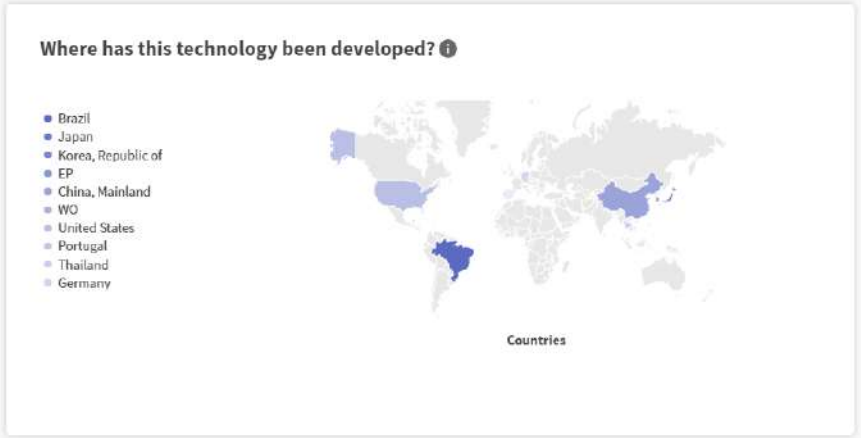

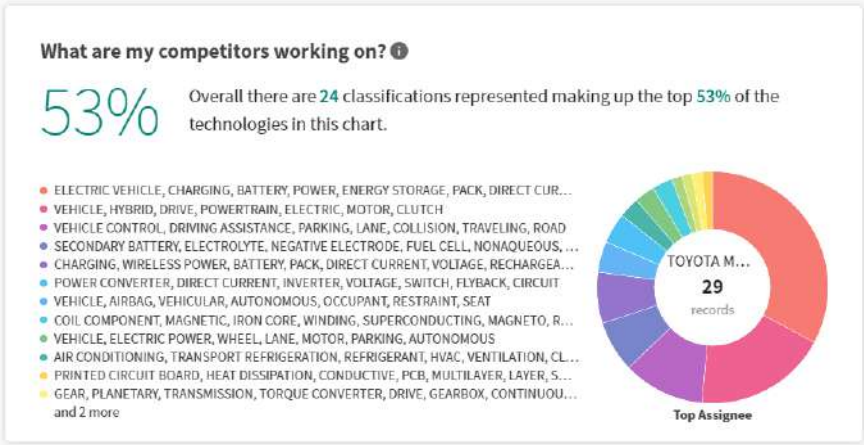

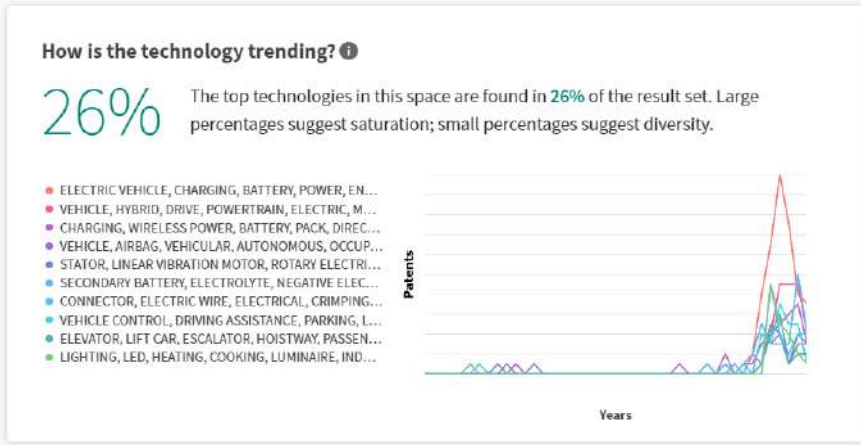

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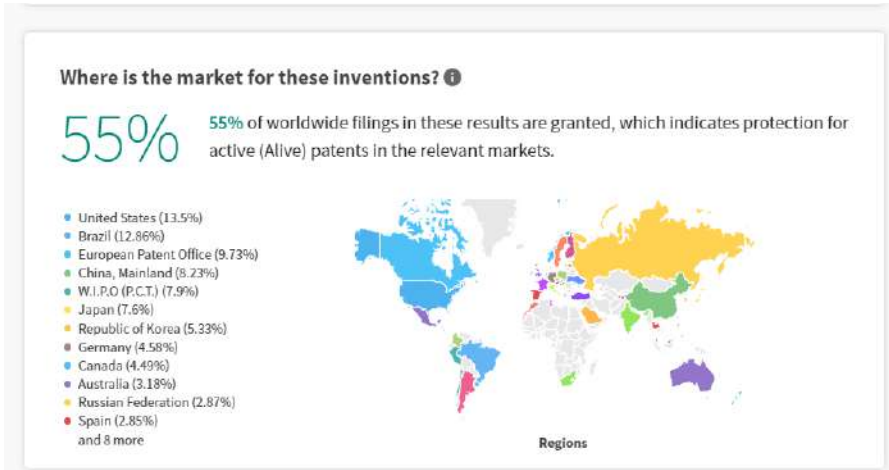

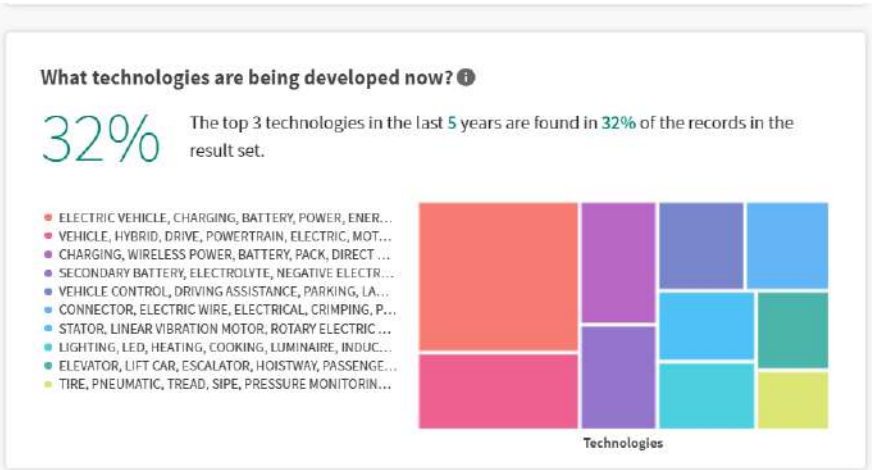

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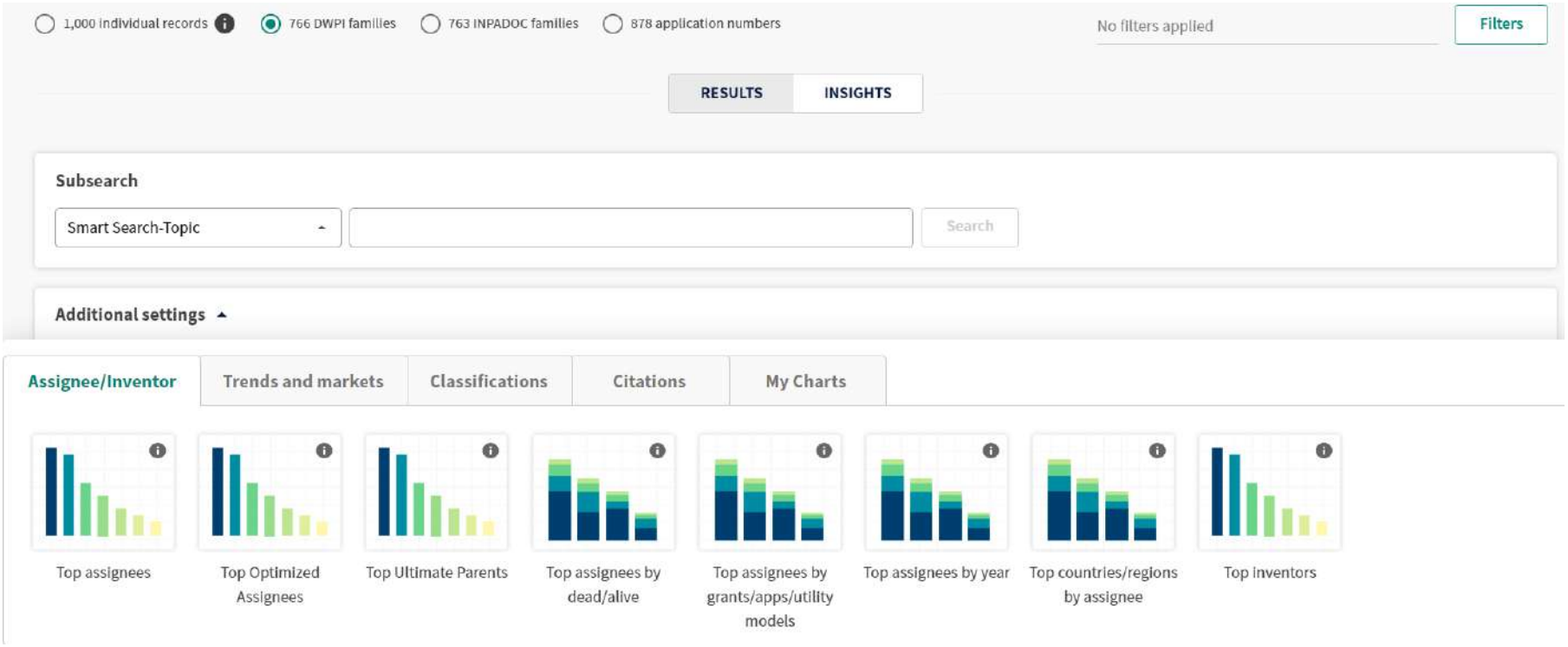

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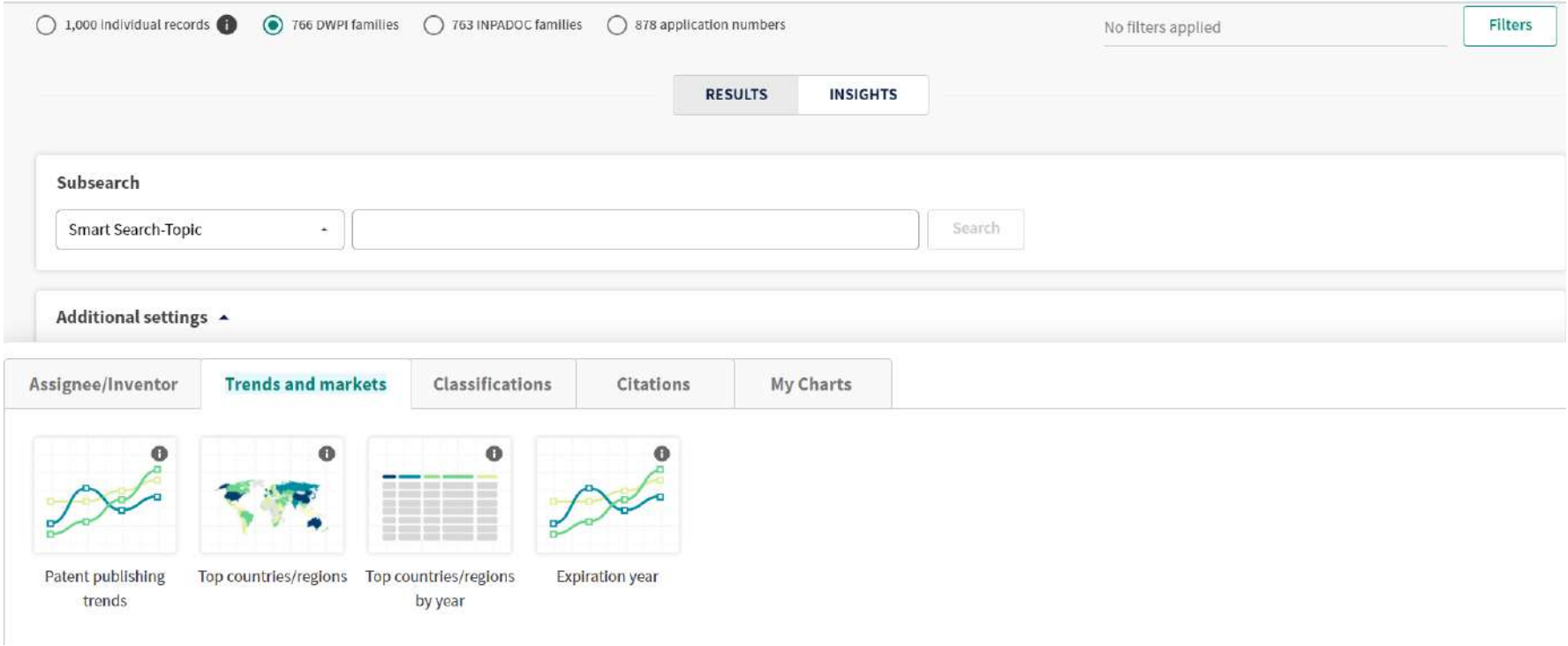

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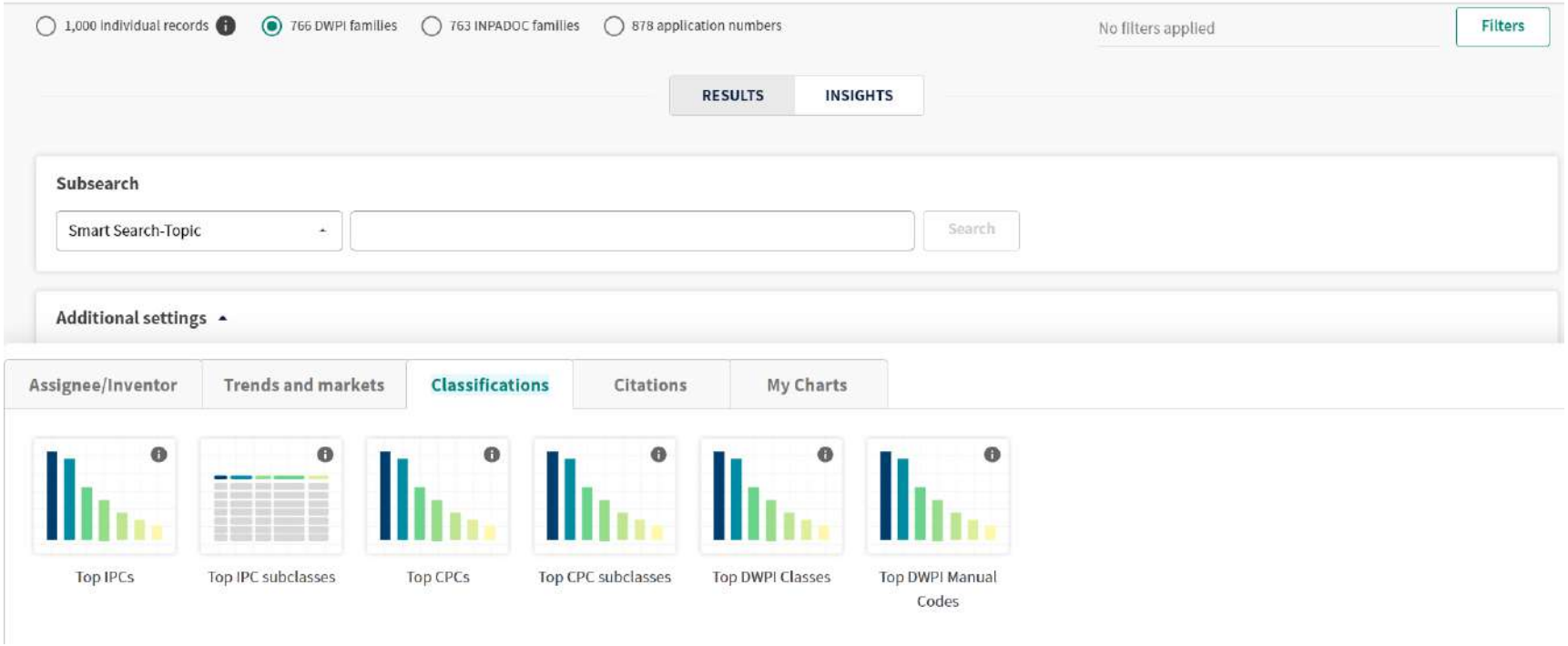

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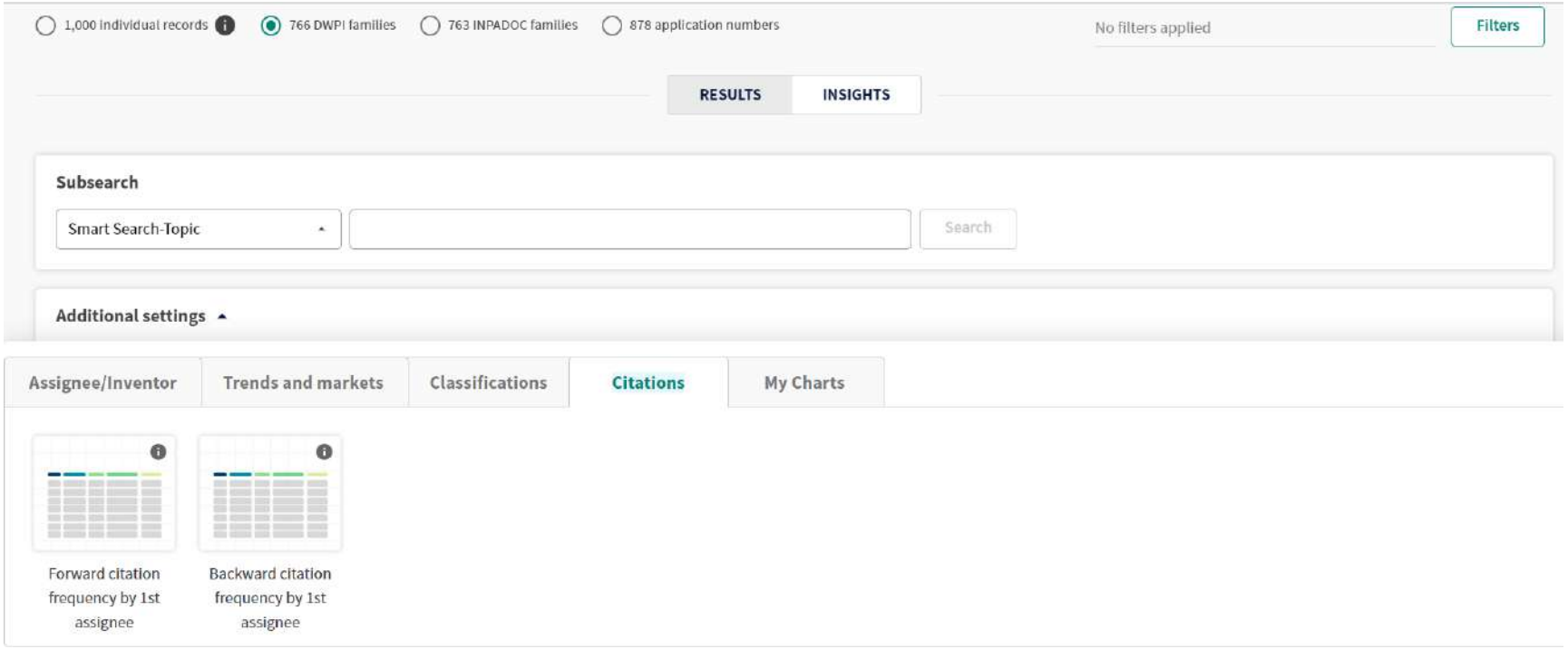

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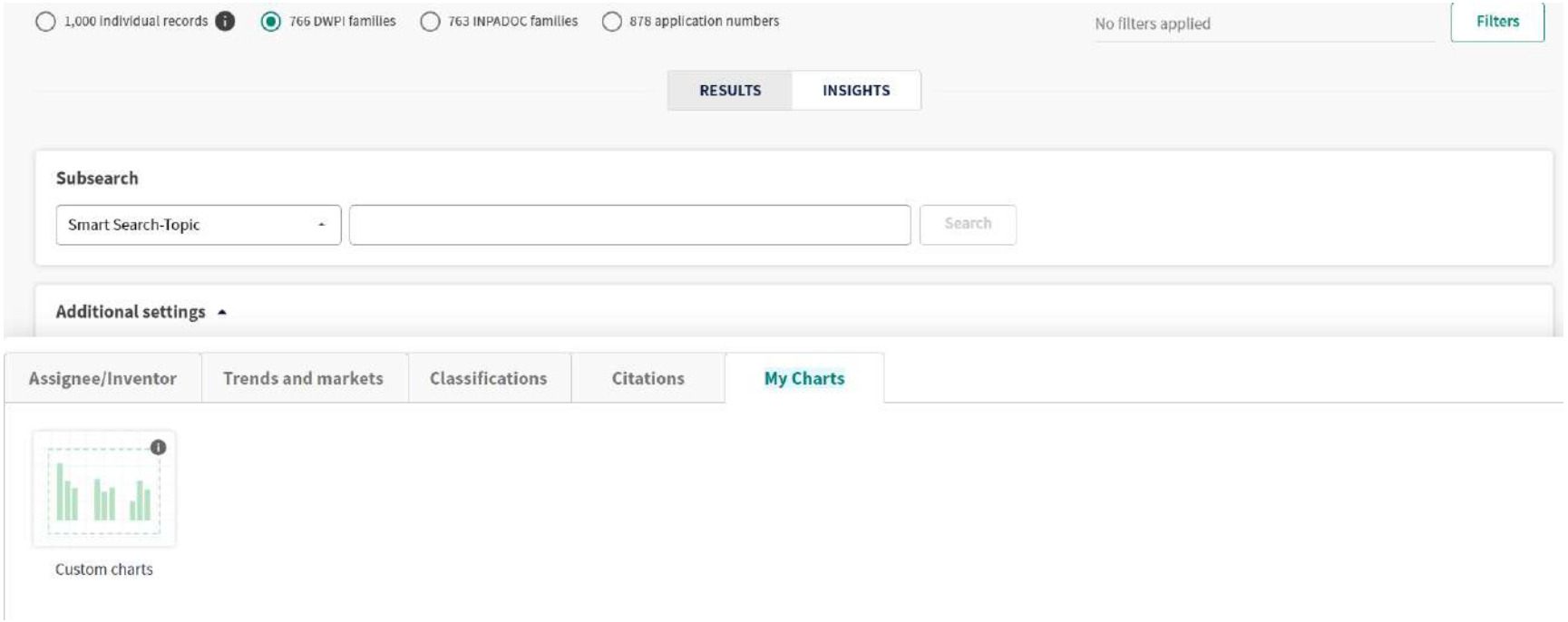


DWPI Function

DWPI Title ?

Charging device for e.g. docking station, for charging rechargeable lithium-ion battery of electronic cigarette, has microcomputer for measuring charge level of rechargeable ba using measured charge level to determine charge mode

Original Title ?

METHOD, SYSTEM AND DEVICE FOR SWITCHLESS DETECTION AND CHARGING

DWPI Abstract ?

Novelty: The device (200) has a device charging circuit (240) selectively and electrically coupled with an electronic article circuit (100) and charging a rechargeable battery loc a portion of an electronic article. A microcomputer (220) detects whether the charging circuit is electrically coupled with the electronic article circuit by periodically supplying a power supply signal from the charging circuit to the article circuit, measures charge level of the rechargeable battery and uses the measured charge level to determine a charg charging the rechargeable battery.

Use: Charging device for a charging holder e.g. docking station, charging station and charging pack (all claimed), for charging a rechargeable battery i.e. rechargeable lithium- of an electronic article e.g. electronic smoking article such as electronic cigarette.

Advantage: The microcomputer measures the charge level of the rechargeable battery and uses the measured charge level to determine the charge mode for charging the rec battery, thus charging the rechargeable battery in an efficient manner.

First Claim ?

1. A charging device for charging an electronic article, the charging device comprising the following:

(a) a device charging circuit configured (i) to selectively, electrically couple with an electronic article circuit and (ii) to charge a rechargeable battery located within a portion of electronic article and comprising part of the electronic article circuit, and

(b) a microcomputer configured to do the following: (i) detect whether the charging circuit is electrically coupled with the electronic article circuit, (ii) measure a charge level o rechargeable battery, and (iii) use the measured charge level to determine a charge mode for charging the rechargeable battery.

DWPI Assignee / Applicant ?

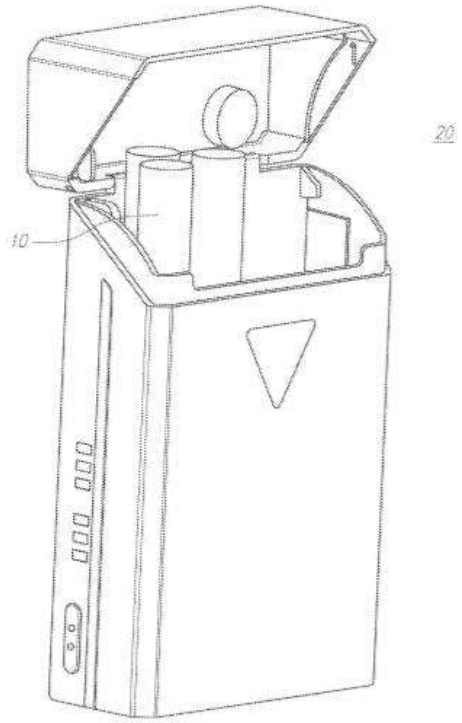
FONTEM HOLDINGS 4 BV, (FONT-N) ; LOEC INC, (LOEC-N)

DWPI Inventor ?

ALARCON R; BLAU D; KEPNER C

DWPI Function

Title : METHOD, SYSTEM AND DEVICE FOR SWITCHLESS DETECTION AND CHARGING



DWPI Title : Charging device for e.g. docking station, for charging rechargeable lithium-ion battery of electronic cigarette, has microcomputer for measuring charge level of rechargeable battery and using measured charge level to determine charge mode

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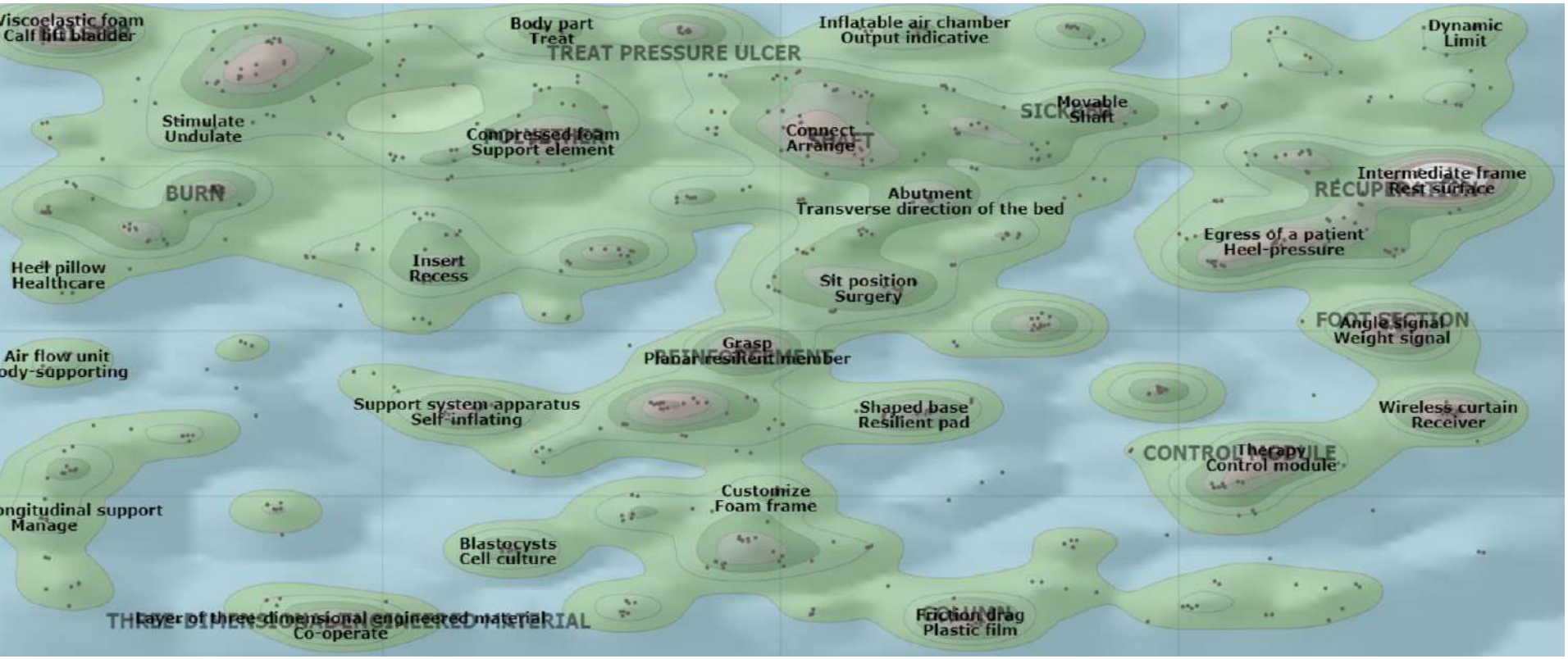

Patent Landscape

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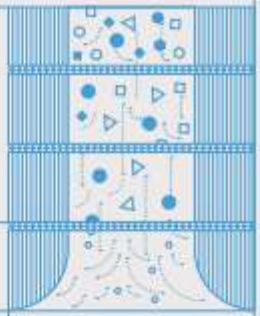
Patent Landscape Reports

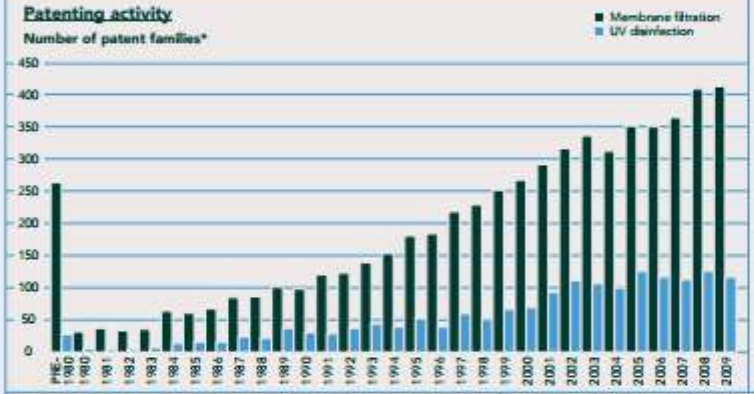
Water Treatment: UV and Membrane Filtration



The membrane-based water treatment field has seen a high level of innovation over the years, while UV technology has remained a much smaller patenting area.

Patenting activity

Number of patent families*



Water treatment technologies

Number of patent families

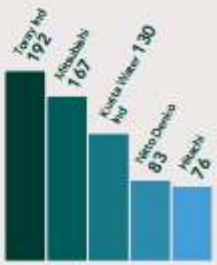
Membrane filtration

Top 5 origins

Number of patent filings per office of first filings

Top 5 applicants

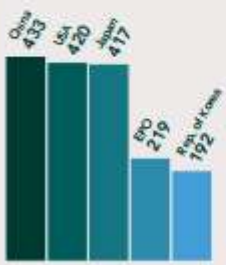
Number of patent families



UV disinfection

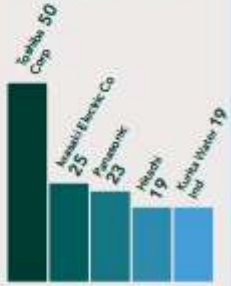
Top 5 origins

Number of patent filings per office of first filings



Top 5 applicants

Number of patent families



Application in desalination systems

Number of patent families related to water treatment in desalination systems

Most promising technologies

Number of votes in a survey asking participants to identify the technologies where increased innovation will have the highest impact

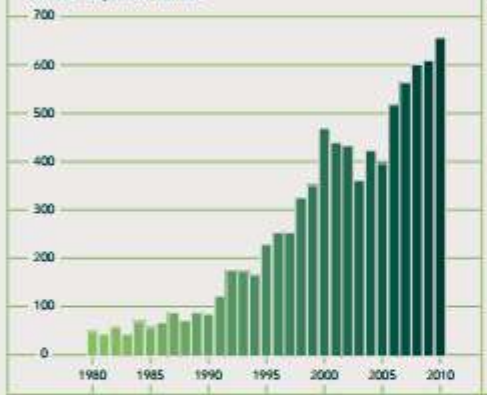
Patent Landscape Reports

Electronic Waste Recycling

The surge in patenting activity since 2000 points strongly to the commoditization of e-waste as a source of high value materials, such as rare earth and noble metals.

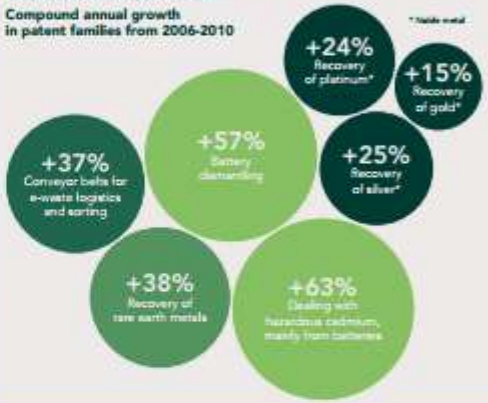
Patenting activity

Number of patent families*



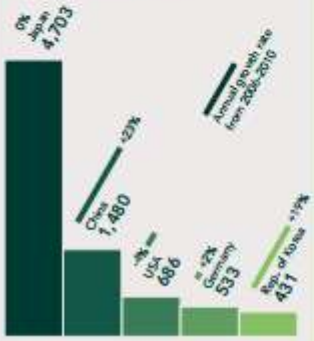
Major technology trends

Compound annual growth in patent families from 2006-2010



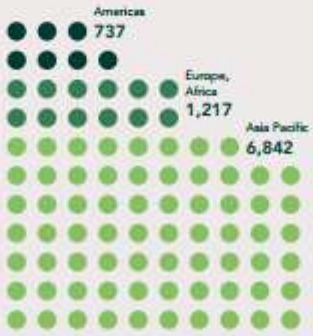
Top 5 origins

Number of patent families per office of first filing since 1980



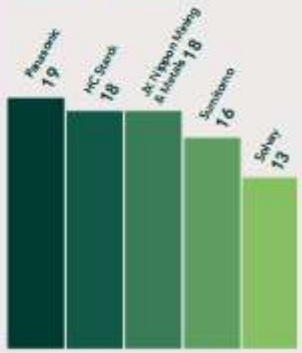
Regional distribution

Number of patent families by region of first filing since 1980



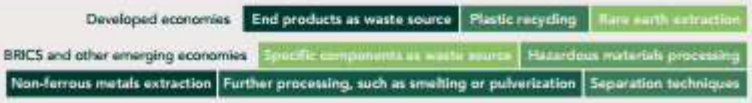
Top 5 applicants

Number of patent families filed in at least five territories



Specializations

By economy type



Key: *A patent family is a set of patent filings made in various countries to protect a single invention.

URL: www.wipo.int/patentscope/en/programs/patent_landscapes/reports

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