



Patent Search Tools and Techniques

Geneva
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Technology and Innovation Support Division

Being agile as an inventor doesn't mean making shortcuts



Why is a patent search a good idea?

- ❑ **IP system is used and is generating data**
- ❑ **Patents: structured data – recognized indicator for S&T output and innovation tracking**
- ❑ **Patent information: often unique/complementary to scientific literature**
- ❑ **Access to (relevant information) – tools and skills**

When and why carry out a patent search?

- State of the art and trends in a given technical field
 - Develop new solutions to known problems or adapt known solutions to local conditions
 - Determine novelty/patentability
 - Helps draft stronger claims
 - Avoid infringement of 3rd party rights
 - Identify potential competitors or partners

Where to
search?



How to choose?

Patent databases and search tools

- National/regional IPOs
- Patent collection initiatives
- Private sector (free or fee-based)

Free of charge

PATENTSCOPE

Espace.net



Fee-based



WIPO INSPIRE is a collection of reports on patent databases and their features. Get clear, accurate and unbiased information and find out which patent database is best for you.

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Reports by name

Reports by coverage

eTISC

Patent Register Portal

Search by database name or provider

Filter by features

Clear

Alerts

- Legal status
- Search results

General search tools

- Cross-lingual semantic search
- Non-Latin character search
- Search history queries
- Semantic search
- Similarity search

Classifications

- Cooperative Patent Classification
- FI/F-Terms
- International Patent Classification
- US Patent Classification
- Other

Analysis data

Value added data

- Harmonized titles and/or abstracts
- Standardized applicant names

Showing 10 of 27 entries

Database title	Provider	Pricing
<input type="checkbox"/> Ambercite AI	Ambercite	Fee paying
<input type="checkbox"/> Chemical Explorer	Minesoft	Fee paying
<input type="checkbox"/> Citation List-Public Access	United States Patent and Trademark Office (USPTO)	Free
<input type="checkbox"/> Derwent Innovation	Clarivate Analytics	Fee paying
<input type="checkbox"/> Espacenet	European Patent Office (EPO)	Free
<input type="checkbox"/> European Patent Register	European Patent Office (EPO)	Free
<input type="checkbox"/> European Publication Server	European Patent Office (EPO)	Free
<input type="checkbox"/> Global Dossier-Public Access Dossier	United States Patent and Trademark Office (USPTO)	Free
<input type="checkbox"/> Global Patent Index (GPI)	European Patent Office (EPO)	Fee paying
<input type="checkbox"/> IncoPat Global Patent Database	BEIJING INCOMPAT CO., LTD	Fee paying

1 2 3 Next



<https://inspire.wipo.int>

Patent search approach



- Document fields to search
- Keywords
- Dates
- Names
- Patent classification symbols
- Search operators/query language specificities

(10) International Publication Number
WO 2017/037605 A1

FIELD OF THE INVENTION

This invention relates to a method and composition for the treatment of bees against parasitic infestation, particularly, but not exclusively to treatment of honey bees against infestation by *Varroa* mites including *Varroa destructor* and *Varroa Jacobsoni*.

BACKGROUND TO THE INVENTION

Honey bees (*Apis* spp.) are an important component of the agricultural industry, directly providing honey for the food markets as well as playing a key role in pollination, which in turn is essential in the functioning of ecosystems and

Alternative methods for control of bee mites, particularly *Varroa* mites, have also been developed. US2015/0133532 & WO2015/001336 describe the use of nucleic acid for the prevention and treatment of bee mite infestation; and US2009/0118214 describes the uses of nucleic acid for prevention and treatment of viral infections in honeybees. In addition, US2014/135281 describes the use of cryomazine (a triazine insect growth regulator used as an insecticide and an acaricide) and

CLAIMS

1. A composition for the treatment of bees against parasitic infestation comprising a mixture of at least one Fenton's reagent to operatively produce free radicals, and a bee attractant in a suitable solution; the Fenton's reagent and/or the concentration thereof being selected to be detrimental to the metabolism of the parasite.

(43) International Publication Date
9 March 2017 (09.03.2017)

(51) International Patent Classification

A01N 59/00 (2006.01) A01N 25/00 (2006.01)
A01P 7/02 (2006.01)

(21) International Application Number:

PCT/IB2016/055142

(22) International Filing Date:

29 August 2016 (29.08.2016)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2015/06306 28 August 2015 (28.08.2015) ZA

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2146 Johannesburg (ZA).

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

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[Continued on next page]

(54) Title: A METHOD AND COMPOSITION FOR TREATING BEES AGAINST VARROA MITES

(57) Abstract: The invention discloses a composition for the treatment of bees against parasitic infestation such as *Varroa destructor* and *Varroa Jacobsoni* mite infestation. The composition comprises a mixture of Fenton's reagent(s) to operatively produce free radicals, and a bee attractant in suitable solution. The Fenton's reagent and/or the concentration thereof are selected such as to be detrimental to the antioxidant defence metabolism of the parasite, and preferably complementary to the bee's metabolism. The invention extends to a method for the treatment of bees against said infestation and a kit for administering said composition to the bee.

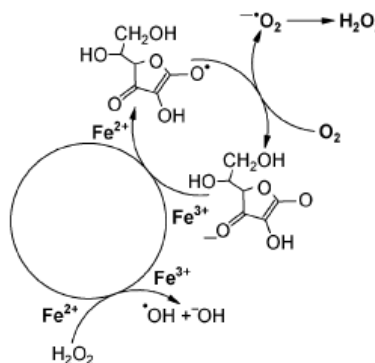


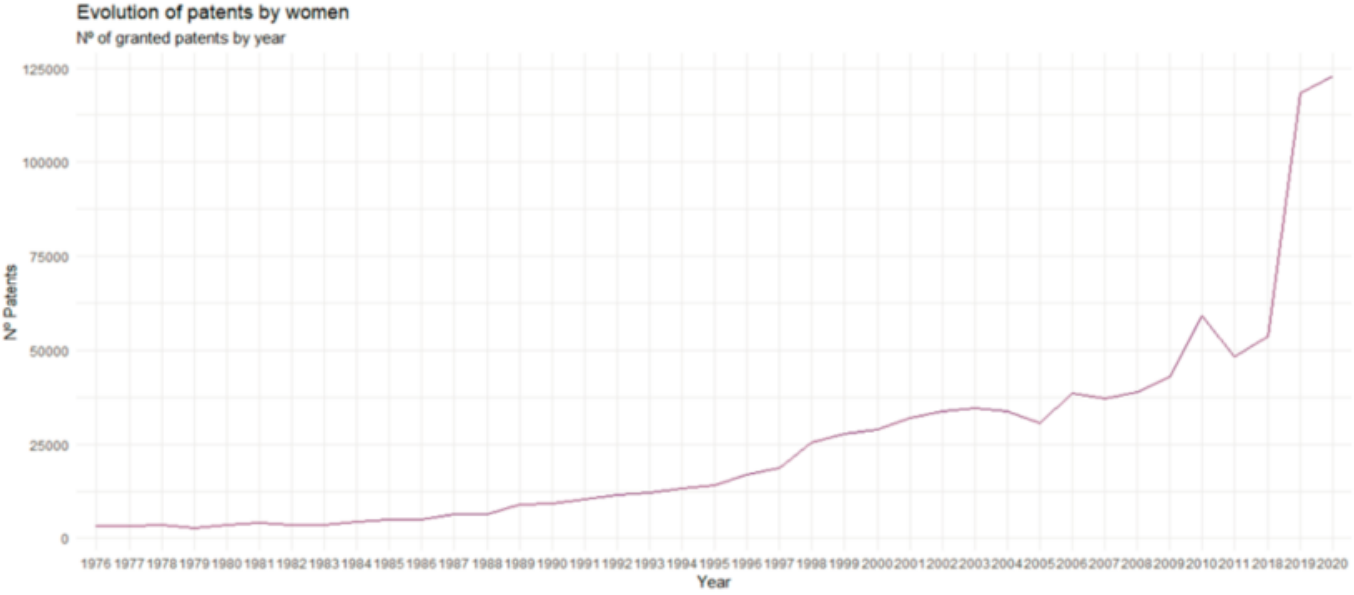
FIGURE 2

What can you search?

- Bibliographic data vs. full-text
- Title, Title Abstract, Title, Abstract and Claims (TAC)
- Patent applications, granted patents...

- Names
- Dates
- Classification symbols
- Concepts
- Citations
- Geographical information

Dates – and evolution over time



Source: USPTO's Patentsview

Search strategy

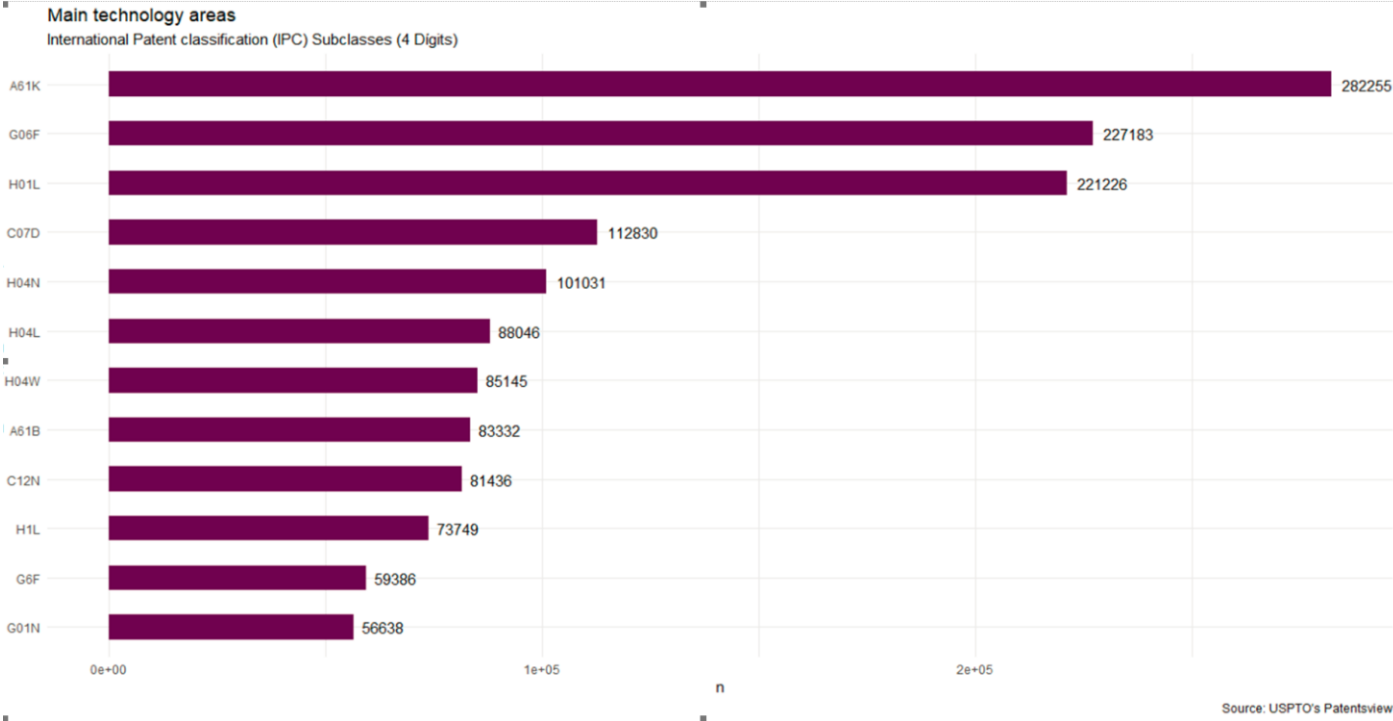
- Broad search
- Narrow search
- Balance between precision and recall
- Patent classification search
- Keyword search
- Name search
- Date range and geography

Patent search approach



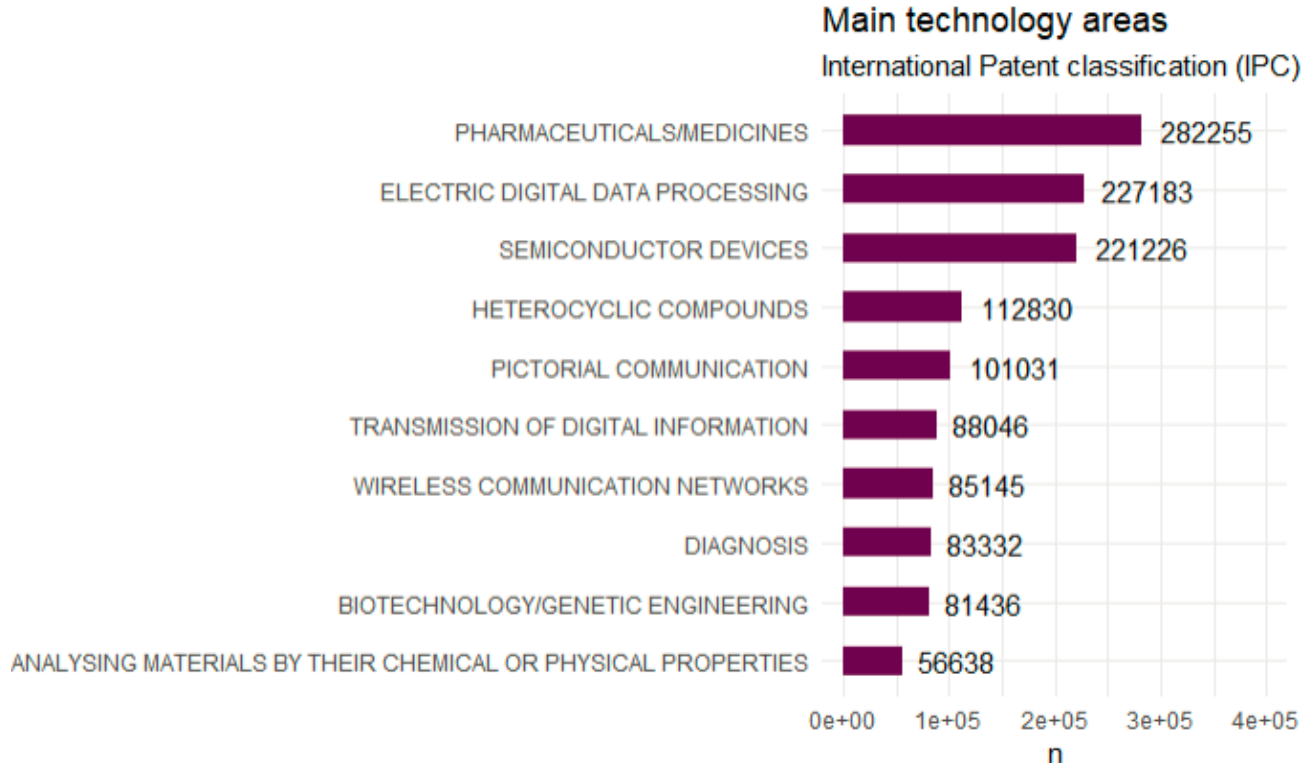
- Document fields to search
- Keywords
- Dates
- Names
- Patent classification symbols**
- Search operators/query language specificities

Classification symbols



Credit: Enric Escorsa and Paul Oldham

Classification symbols...and their meaning



Credit: Enric Escorsa and Paul Oldham

Source: USPTO's Patentsview

QUICK TIPS!

- Appropriate fields to search based on technology and applicants profile
- Keywords: Patent language used & features described
- Get inspired by search strategy documents
- Look for a leader for some answers

Search History:

Limited Classification Search

The Patent Analyst performed a limited classification search within the following US, IPC, CPC, ECLA, or F-Term classification areas:

CPC Class/Subclass(es): B64C 39/024; B64C 27/08; B64C 27/20; B64C 29/00; B64C 29/0091; B64C 39/00; B64C 39/02; B64C 2201/00; B64C 2201/024; B64C 2201/027; B64C 2201/088; B64C 2201/108; B64C 2201/141 (2021.01)

IPC (8) Class/Subclass(es): B64C 39/02; B64C 27/08; B64C 27/20; B64C 29/00; B64C 39/00 (2021.01)

U.S. Class/Subclass(es): 244/17.11; 244/17.13; 244/17.15; 244/17.23; 244/17.25

See Global Search Results.

Global Patent Literature Text Search

The Patent Analyst performed the following global text search, which was not limited by classification but may or may not have been limited by other criteria:

Minesoft PatBase: <https://www.patbase.com>

#	Search query	Results
1	PA=(Jacques w4 Venter)	9
2	INV=(Jacques w4 Venter)	10
3	(1 or 2)	10
4	(UAV* or unmanned%aerial%vehicle or (unmanned w3 aerial%vehicle) or ((unman* w3 aerial*) w3 vehicle*))	106,583
5	(UAV* or unmanned%aerial%vehicle or (unmanned w3 aerial%vehicle) or ((unman* w3 aerial*) w3 vehicle*)) and ((water%proof* or (water w3 proof*)) w10 (unman* or UAV*))	309
6	(UAV* or unmanned%aerial%vehicle or (unmanned w3 aerial%vehicle) or ((unman* w3 aerial*) w3 vehicle*)) and ((water%proof* or (water w3 proof*)) w10 (unman* or UAV*)) and ((balloon* or bladder*))	6
7	(UAV* or unmanned%aerial%vehicle or (unmanned w3 aerial%vehicle) or ((unman* w3 aerial*) w3 vehicle*)) and ((water%proof* or (water w3 proof*)) w10 (unman* or UAV*)) and (vent* w10 (ambien* or atmospher*))	1

Patent search approach

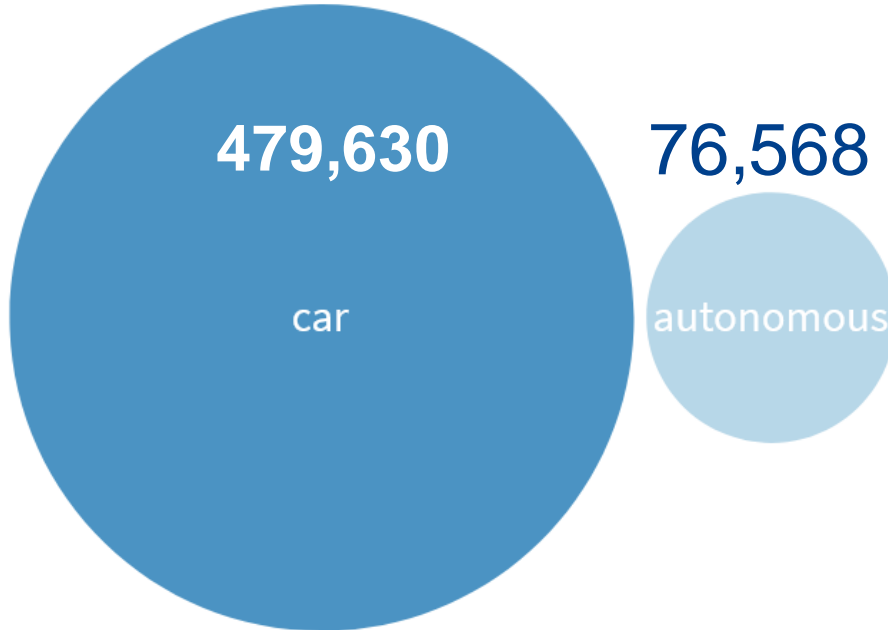


- Document fields to search
- Keywords
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- Search operators/query language specificities**

Patent search specificities

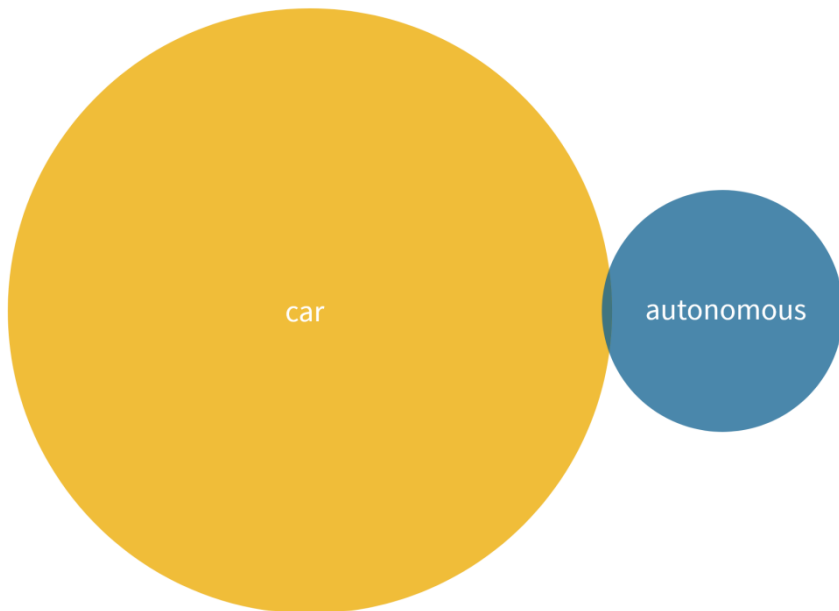
- Patent jargon
- Patent classification codes and granularity
- Search query language (database)
- Scope of the search
- Synonyms, homonyms and related terms
- Boolean (AND, OR, NOT), proximity (NEAR etc) operators, nesting and truncation

Boolean operators



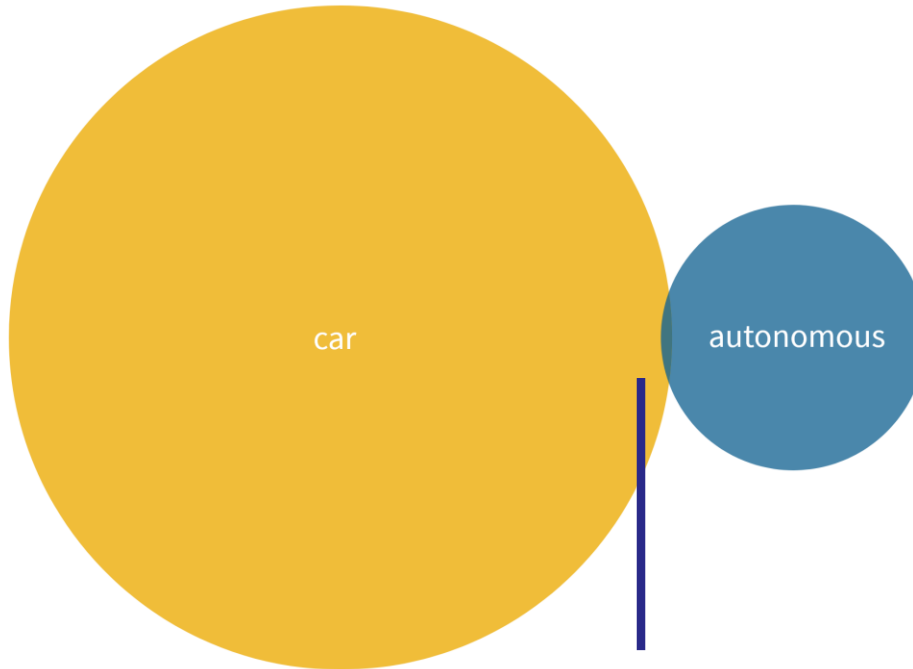
Total: 556,758

Boolean operators – OR



autonomous OR car: 555,247 results

Boolean operators – AND and NOT



autonomous **AND** car: 951

autonomous **NOT** car: 75,617 results

Boolean operators: Uses

- OR: synonyms/variations or related concepts
 - corn OR maize → synonyms
 - corn OR plant → related concepts
- AND: additional concepts
 - corn AND fertilizer

Proximity operators, nesting and truncation

- Proximity operators: “Distance” (number of terms) between search terms **NEAR**, **BEFORE** **X**
- Nesting: apples AND oranges OR bananas **use of brackets**
- Wildcard operators/truncation/stemming: electr* replacing one or more characters – covering word variations, different spellings (s/z) **\$, *, ?...**

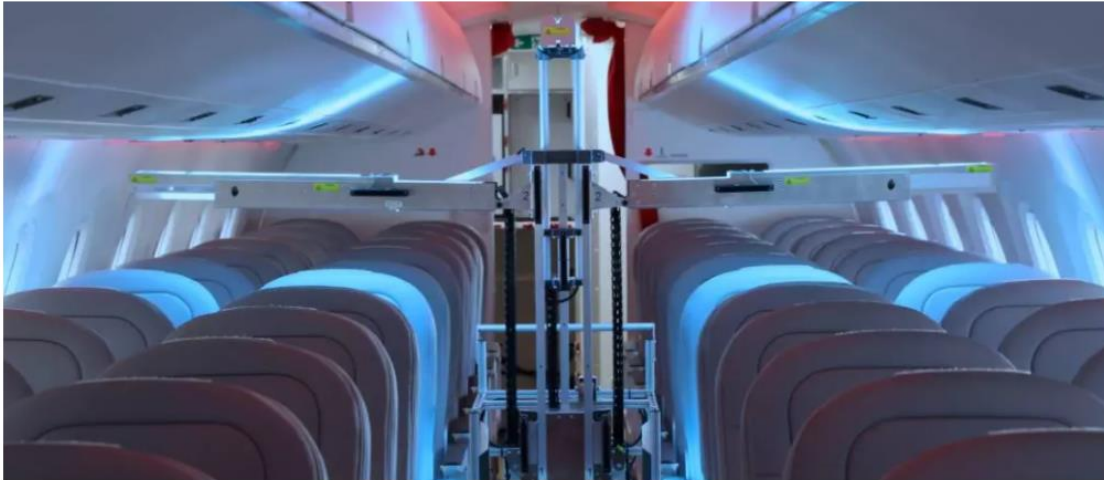
QUICK TIPS!

- Try out different databases (and cheatsheets!)
- Try out different sources to define your keywords
- Break down an invention in different components/features and avoid searching for everything at once

QUICK TIPS!

- Think about homonyms (what do you think about when you hear about a drone?)
- Be careful with wildcards(car*)

These Swiss robots use UV light to zap viruses aboard passenger planes

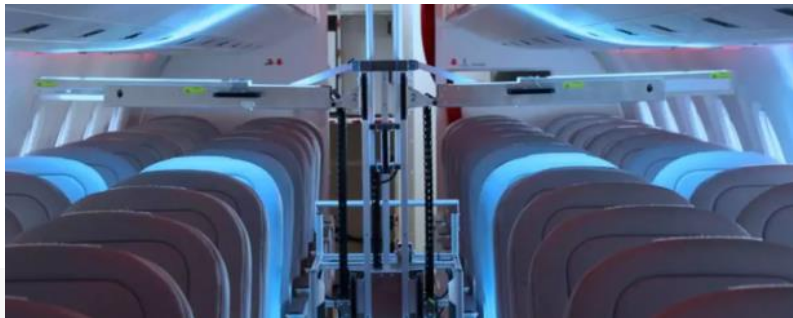


It is hoped that the robot cleaner will reduce people's fear of flying. Image: Reuters/Arnd Wiegmann

This article is published in collaboration with

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- A robot armed with virus-killing ultraviolet light is being tested on Swiss airplanes.
- One of these robots, created by Swiss start-up UVeya, can entirely disinfect a single-aisled plane in 13 minutes.



1. CN111714654 - DISINFECTING ROBOT FOR AIRPLANES AND TRAINS

National Biblio. Data Description Claims Drawings Documents

Permalink Machine translation ▼

Office

China

Application Number

202010410648.1

Application Date

15.05.2020

Publication Number

111714654

Publication Date

29.09.2020

Publication Kind

A

IPC

A61L 2/10 | A61L 2/08 | A61L 2/26 | A61L 9/20

CPC

A61L 2/088 | A61L 2/10 | A61L 2/26 | A61L 9/205

Applicant

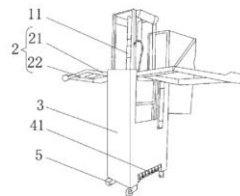
HEJUAN JIANG THIRD GENERATION SEMICONDUCTOR INDUSTRY TECHNOLOGY RESEARCH INSTITUTE
河南省天和第三代半导体产业技术研究院

Inventors

LI DUDUQIANG
李国强

Title

[EN] Disinfecting robot for airplanes and trains
[ZH] 一种飞机、火车用消毒机器人



Abstract

[EN]

The invention provides a disinfecting robot for airplanes and trains, and relates to the technical field of sanitary wares. The robot comprises a box body, wherein self-locking universal wheels are fixedly connected to the lower end of the box body; two symmetrically-arranged photocatalyst **disinfection** devices are arranged on the inner wall of the box body; each photocatalyst **disinfection** device comprises a first **ultraviolet** lamp, and the first **ultraviolet** lamp is fixedly connected with the inner wall of the box body; a photocatalyst plate is fixedly connected to the surface of the box body. Through the combined action of **ultraviolet** sterilization and photocatalyst active free radicals, sterilization and **disinfection** purification effects on clothes and appliances in a closed space are achieved, no harm or residue exists, use of disinfectant and **disinfection** gel is greatly reduced, stimulation of the gel to respiratory tract on people is reduced, and the disinfectant and the **disinfection** gel can play a greater role in other aspects; and the unfolding length and angle of a telescopic arm are adjusted to adapt to angles formed by different seats on an **airplane** and a train, and the problem that the **disinfection** process is not thorough is solved.

[ZH]

本发明提供一种飞机、火车用消毒机器人，涉及卫生消毒技术领域，包括箱体，箱体的下端固定连接有自锁式万向轮，箱体的内壁设有两个对称设置的触媒消毒装置，触媒消毒装置包括第一紫外灯，第一紫外灯与箱体的内壁固定连接，箱体的内壁固定连接有光触媒板，箱体的表面开设有下出风口，通过紫外线杀菌配合光触媒具有自由基的共同作用对封闭空间内的衣物、器具实现杀菌及空气净化的效率，无需无残留，极大的减少了对消毒液与消毒凝胶的使用，减少其对人员呼吸道的刺激，并使得消毒液和消毒凝胶在其他方面具有发挥更大的作用，通过对伸缩臂展开长度，角度的调节，适应飞机、火车上不同座椅所形成的角度，解决消毒过程中不彻底的问题。

QUICK TIPS!

How to reduce noise:

- Manual review of a sample of results and search iterations
- Support tools:
PATENTSCOPE CLIR,
IPCCAT etc

Patent search: a learning process –
but nothing can scare a (woman)
inventor 😊



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