

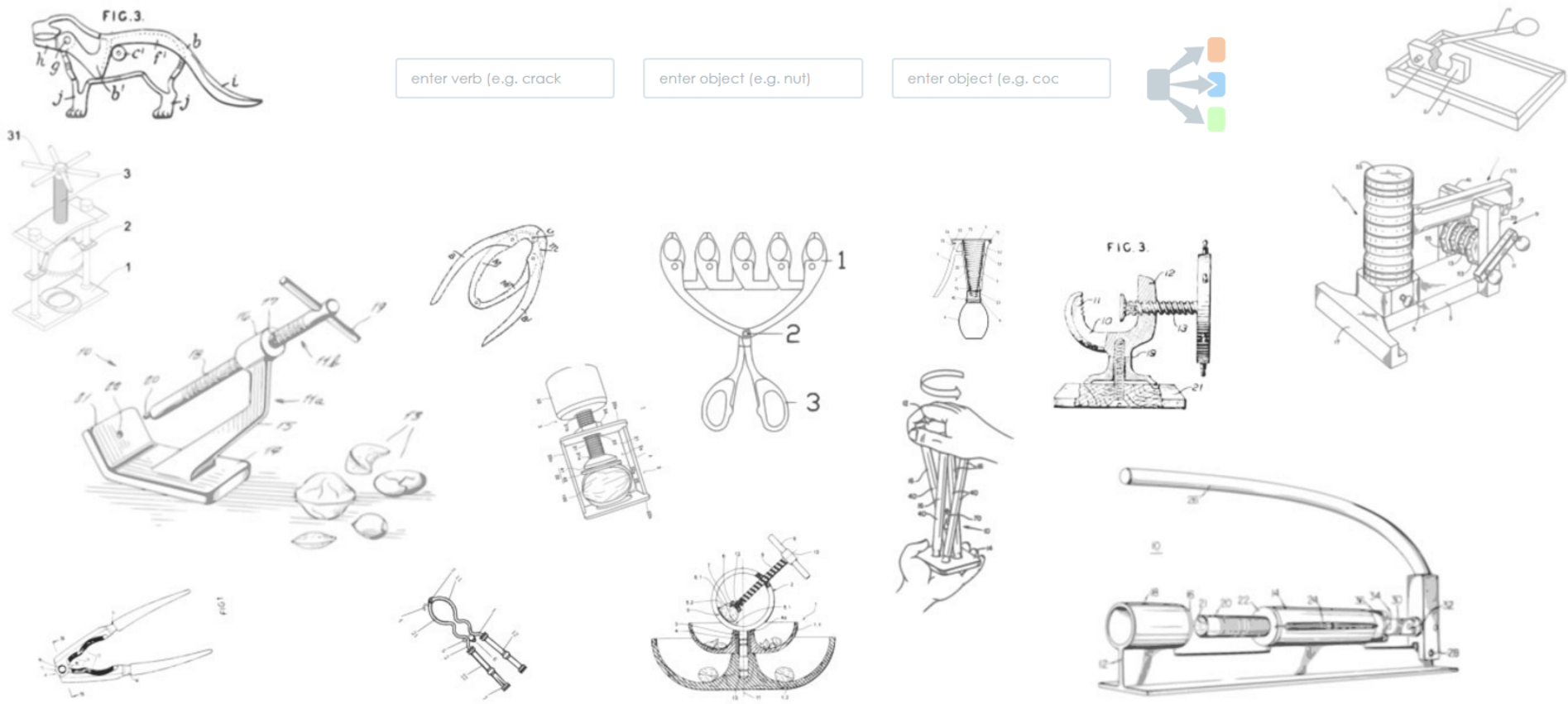
Kompat 2.0

Strumento per la costruzione della query

Giancarlo Facoetti

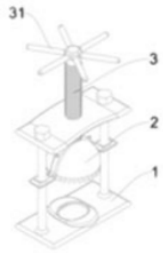
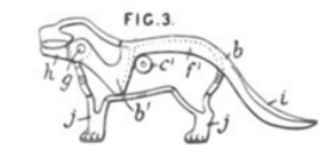
Via Galvani, 2E
24044 Dalmine (BG)
C/O Università di Bergamo
Tel. +39 035 205 2353 ; Fax. +39 035 039 3015
bigflo@bigflo.it





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Inserimento termini di ricerca iniziali



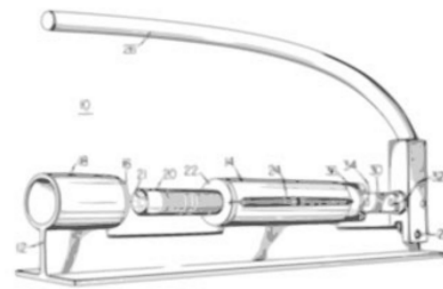
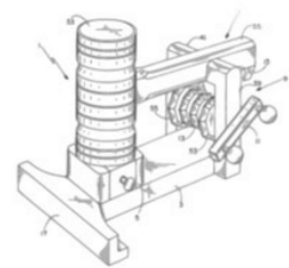
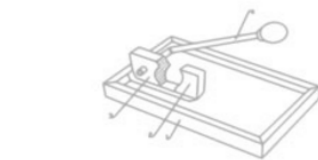
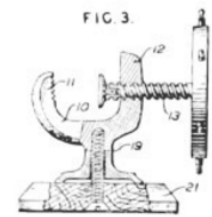
crack



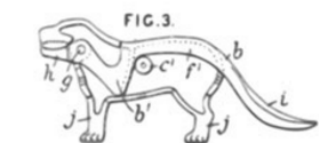
enter object (e.g. nut)

enter object (e.g. coc

become fractured; break or crack on the surface only
make a very sharp explosive sound
make a sharp sound
hit forcefully; deal a hard blow, making a cracking noise
pass through (a barrier)
break partially but keep its integrity
break suddenly and abruptly, as under tension
tell spontaneously
cause to become cracked
reduce (petroleum) to a simpler compound by cracking
break into simpler molecules by means of heat



Scelta verbi (con significato semantico)

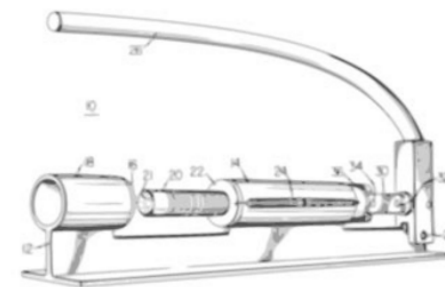
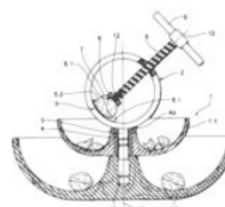
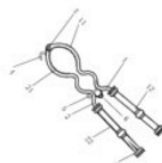
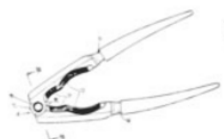
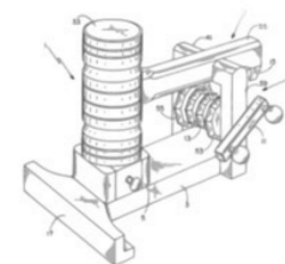
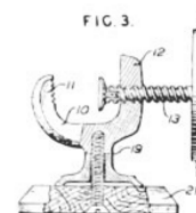
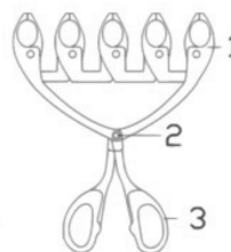
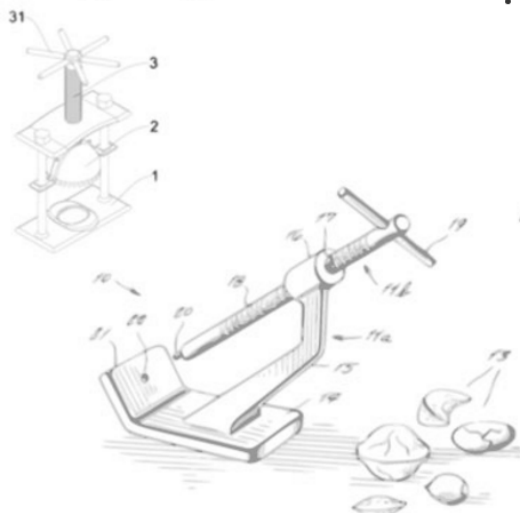
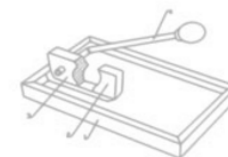


enter verb (e.g. crack



enter object (e.g. nut)

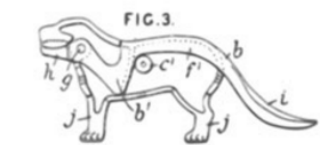
enter object (e.g. cocaine)



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Scelta verbi (con significato semantico)



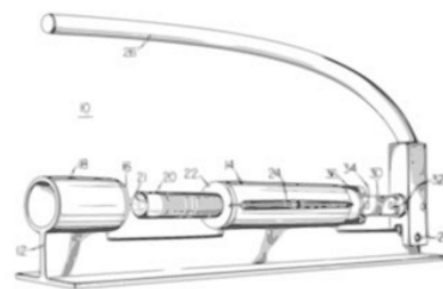
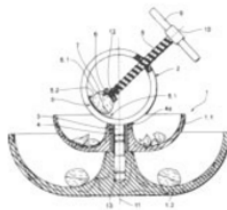
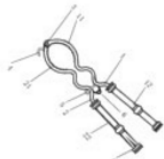
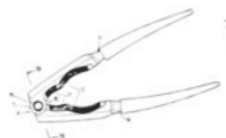
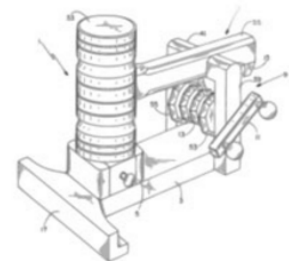
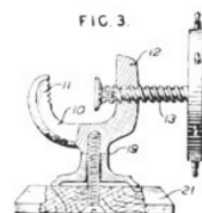
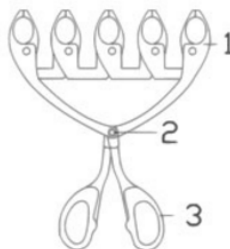
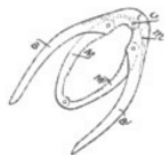
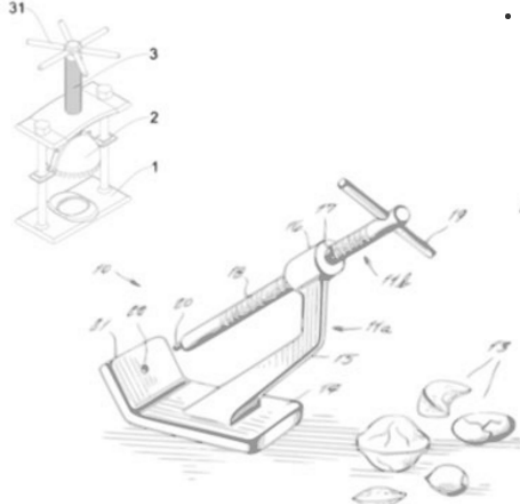
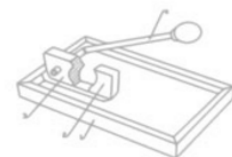


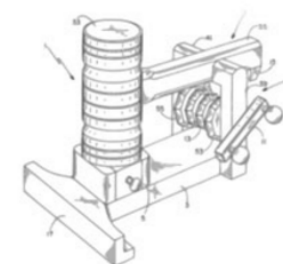
enter verb (e.g. crack) ✓

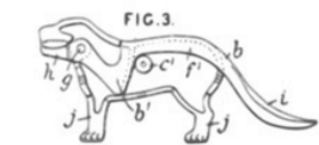
enter object (e.g. nut)

enter object (e.g. coc

- crack ✕
- break ✕







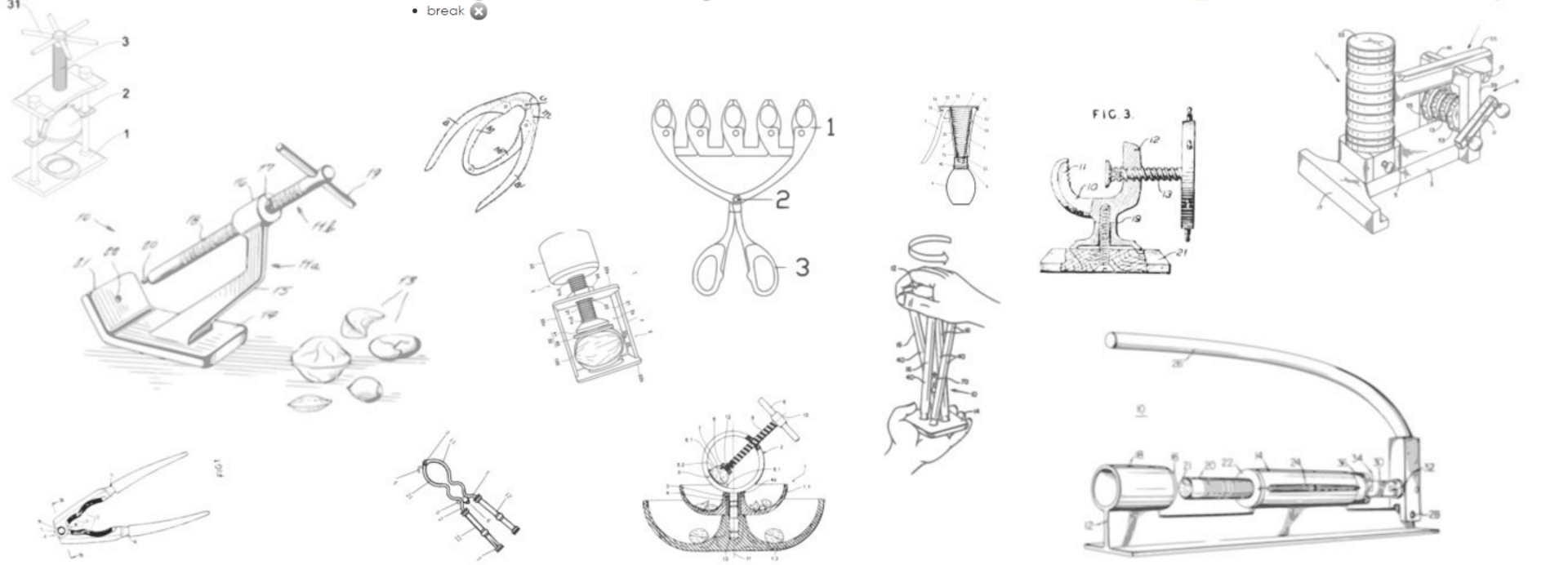
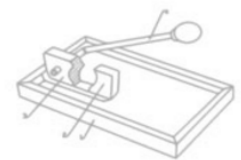
enter verb (e.g. crack) ✓

- crack ✕
- break ✕

enter object (e.g. nut) ✓

- nut ✕

enter object (e.g. coc) ✓



Kompat 3 | Intelligent Query Construction

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KOMPAT Input Query

facio1976

WIPO Title Abstract Description Claims Full-text

crack

AND

nut

AND

NOT

Add words

Classes

Inventor

Assignee

Exclude words

Classes

Inventor

Assignee

Adapt length to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Send query

Export query

Query:

```
(EN_ALLTXT:((break OR crack) AND (nut)))
```

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Schermata di costruzione della query

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Other bookmarks

KOMPAT Input Query

fac01976

←

- **crack**: become fractured; break or crack on the surface only
- **break**: become separated into pieces or fragments

Synonyms

Broad words

More specific

Multi-words

My library

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Espansione verbi

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KOMPAT Input Query

fac01976

←

- **crack**: become fractured; break or crack on the surface only
- **break**: become separated into pieces or fragments

Synonyms:

crack × break × split_up × check × come_apart × fall_apart × separate ×

Synonyms

Broad words

More specific

Multi-words

My library

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Generazione sinonimi

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Other bookmarks

KOMPAT Input Query

fac01976

←

- **crack**: become fractured; break or crack on the surface only
- **break**: become separated into pieces or fragments

Synonyms

Broad words:

change_integrity x change x

Broad words

More specific

Multi-words

My library

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Generazione parole di significato più generale

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KOMPAT Input Query

fac01976

• **crack**: become fractured; break or crack on the surface only
• **break**: become separated into pieces or fragments

More specific words:

crack x crush x smash x fragmentize x break_open x break_up x fragmentise x bust x fragment x run x split x puncture x burst x ladder x snap x

Synonyms

Broad words

More specific

Multi-words

My library

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Generazione parole più specifiche

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KOMPAT Input Query

fac01976

My library:

destroy|

- **crack**: become fractured; break or crack on the surface only
- **break**: become separated into pieces or fragments

Synonyms

Broad words

More specific

Multi-words

My library

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Dizionario personalizzato

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KOMPAT Input Query

fac01976

My library:

- **crack**: become fractured; break or crack on the surface only
- **break**: become separated into pieces or fragments

Synonyms

Broad words

More specific

Multi-words

My library

destroy

Aggiunta parola a dizionario personale

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KOMPAT Input Query

fac01976

My Library: Save word

Save 'destroy' permanently in your library?

link to: crack link to: break don't save

• **crack**: become fractured; break or crack on the surface
• **break**: become separated into pieces or fragments

My library:

destroy

Synonyms

Broad words

More specific

Multi-words

My library

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Salvataggio nuovo termine in account
utente

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KOMPAT Input Query

facio1976

WIPO Title Abstract Description Claims Full-text

crack

AND

nut

Query:

```
(EN_ALLTXT:((("change integrity" OR "come apart" OR "fall apart" OR "split up" OR break OR change OR check OR crack OR destroy OR separate)
AND
(nut))))
```

AND

NOT

Add words

Classes

Inventor

Assignee

Exclude words

Classes

Inventor

Assignee

Adapt length to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Send query

Export query

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Generazione automatica della query (con parole espanse)

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KOMPAT Input Query

fac01976

• **nuf**: usually large hard-shelled seed

Synonyms

Broad words

More specific

Multi-words

My library

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Espansione oggetti

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Other bookmarks

KOMPAT Input Query

fac01976

• **nut**: usually large hard-shelled seed

Synonyms:

nut

Synonyms

Broad words

More specific

Multi-words

My library

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Generazione sinonimi oggetti

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KOMPAT Input Query

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• **nut**: usually large hard-shelled seed

Broad words:

seed

Synonyms

Broad words

More specific

Multi-words

My library

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Generazione oggetti più generali

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KOMPAT Input Query

fac01976

• **nut**: usually large hard-shelled seed

More specific words:

edible_nut x cembra_nut x nutlet x cedar_nut x palm_kernel x kola_nut x mast x cola_nut x palm_nut x

Synonyms

Broad words

More specific

Multi-words

My library

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Generazione oggetti più specifici

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Other bookmarks

KOMPAT Input Query

fac01976

• **nut**: usually large hard-shelled seed

MultiWords:

Synonyms

Broad words

More specific

Multi-words

My library

shea nut x pecan nut x japanese chestnut x macadamia nut x pinyon nut x barcelona nut x tung nut x betel nut x nut sedge x sea walnut x physic nut x moreton bay chestnut x nut x pistachio nut x spanish chestnut x red chestnut x brazil nut x purging nut x litchi nut x cashew nut x white walnut x poison nut x oil nut x nut outlet x hog peanut x kola nut x american chestnut x english walnut x buffalo nut x areca nut x european chestnut x water chestnut x hickory nut x pine nut x black walnut x white chestnut x

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Generazione parole composte

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Other bookmarks

KOMPAT Input Query

faco1976

• **nuf**: usually large hard-shelled seed

My library:

roasted almond x

Synonyms

Broad words

More specific

Multi-words

My library

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Dizionario personalizzato

Inbox (26,678) - faco1976 x Kompat 3 | Intelligent Q... x

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KOMPAT Input Query

faco1976

My Library: Save word

Save 'roasted almond' permanently in your library?

link to: nut don't save

• nut: usually large hard-shelled seed

My library:

roasted almond x

Synonyms

Broad words

More specific

Multi-words

My library

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Associazione parola custom all'albero
semantico

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Other bookmarks

KOMPAT Input Query

facio1976

WIPO Title Abstract Description Claims Full-text

crack

nut

AND

Query:

```
(EN_ALLTEXT:({"change integrity" OR "come apart" OR "fall apart" OR "split up" OR break OR change OR check OR crack OR separate})
AND
("roaster almond" OR nut)))
```

AND

Add words

Classes

Inventor

Assignee

NOT

Exclude words

Classes

Inventor

Assignee

Adapt lenght to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Send query

Export query

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Update della query con nuovi termini

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Other bookmarks

KOMPAT Input Query

facio1976

WIPO Title Abstract Description Claims Full-text

crack

nut

AND

Query:

```
(EN_DE(("change integrity" OR "come apart" OR "fall apart" OR "split up" OR break OR change OR check OR crack OR separate))
AND
("roaster almond" OR nut)))
```

AND

Add words

Classes

Inventor

Assignee

NOT

Exclude words

Classes

Inventor

Assignee

Adapt length to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Send query

Export query

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Scelta campi in cui cercare(titolo, abstract, etc)

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KOMPAT Input Query

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Select database: WIPO

 Wipo Free patents database of the World Intellectual Property Organization	 GSPN This database will enable the user to search Chinese patent documents in the English or Chinese language	 UIBM Italian intellectual property database
 Espacenet Free patents database of the European Patent Office	 Orbit Questel proprietary database for patents and design	 Google Scholar Search for scholarly literature
 Depatisnet Free patents database of the German Patents Office	 Thomson Reuters Thomson Reuters proprietary patents database	 DuckDuckGo Search the web
 Uspto Free patents database of the United States Patent and Trademark Office	 Global Design Database Free industrial designs database registered under WIPO	

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Traduzione automatica della query per diverse banche dati

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Other bookmarks

KOMPAT Input Query

facio1976

Esacenet Title Abstract

crack

nut

AND

AND

NOT

Add words

Classes

Inventor

Assignee

Exclude words

Classes

Inventor

Assignee

Adapt lenght to database

Truncation (e.g. crack*)

Normal

Copy query

Send query

Export query

Query: **Esacenet allows maximum of 10 search terms per field.**

TE(("change integrity" OR "come apart" OR "fall apart" OR "split up" OR break OR change OR check OR crack OR separate)

AND

("roaster almdon" OR nut))

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Generazione query per Espacenet

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KOMPAT Input Query

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Select database: Orbit

 Wipo Free patents database of the World Intellectual Property Organization	 GSPN This database will enable the user to search Chinese patent documents in the English or Chinese language	 UIBM Italian intellectual property database
 Espacenet Free patents database of the European Patent Office	 Orbit Questel proprietary database for patents and design	 Google Scholar Search for scholarly literature
 Depatisnet Free patents database of the German Patents Office	 Thomson Reuters Thomson Reuters proprietary patents database	 DuckDuckGo Search the web
 Uspto Free patents database of the United States Patent and Trademark Office	 Global Design Database Free industrial designs database registered under WIPO	

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Traduzione query

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KOMPAT Input Query

Orbit Title Abstract Description Claims Full-text

crack nut

AND 4W

Query:

```

((((change W integrity) OR (come W apart) OR (fall W apart) OR (split W up) OR break OR change OR check OR crack OR separate)
F
((roaster W almond) OR nut)) / TI / Q1 / DESC / ODS

```

AND

- Add words
- Classes
- Inventor
- Assignee

NOT

- Exclude words
- Classes
- Inventor
- Assignee

- Adapt length to database
- Truncation (e.g. crack*)
- Normal
- Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Export query

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Generazione query per Orbit

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KOMPAT Input Query

Orbit Title Abstract Description Claims Full-text

crack nut

AND 4W

Query:

```

((((change W integrity) OR (come W apart) OR (fall W apart) OR (split W up) OR break OR change OR check OR crack OR separate)
F
((roaster W almond) OR nut))/B/tx

```

AND

- Add words
- Classes
- Inventor
- Assignee

NOT

- Exclude words
- Classes
- Inventor
- Assignee

- Adapt length to database
- Truncation (e.g. crack*)
- Normal
- Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Export query

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Settaggio della distanza verbo-oggetto

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Other bookmarks

KOMPAT Input Query

Orbit Title Abstract Description Claims Full-text

crack

AND 3D 4W

nut

Query:

(((change W integrity) OR (come W apart) OR (fall W apart) OR (split W up) OR break OR change OR check OR crack OR separate)

3D

((roaster W almond) OR nut))/B/TX

AND

Add words

Classes

Inventor

Assignee

NOT

Exclude words

Classes

Inventor

Assignee

Adapt length to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Export query

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Settaggio della distanza verbo-oggetto

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KOMPAT Input Query

Orbit Title Abstract Description Claims Full-text

crack nut

AND 3D 4W

Query:

(((((came W apart) OR (change W integrity) OR (changed W integrity) OR (changes W integrity) OR (changing W integrity) OR (come W apart) OR (comes W apart) OR (coming W apart) OR (fall W apart) OR (fallen W apart) OR (falling W apart) OR (falls W apart) OR (fell W apart) OR (split W up) OR (splits W up) OR (splitting W up) OR break OR breaking OR breaks OR broke OR broken OR change OR changed OR changes OR changing OR check OR checked OR checking OR checks OR crack OR cracked OR cracking OR cracks OR separate OR separated OR separates OR separating)))))

3D

((roaster W almond) OR nut OR nuts))/BI/IX

AND

Add words

Classes

Inventor

Assignee

NOT

Exclude words

Classes

Inventor

Assignee

Adapt length to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Export query

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Espansione termini con varianti (coniugazioni e plurali)

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Other bookmarks

KOMPAT Input Query

Orbit Title Abstract Description Claims Full-text

crack

AND 3D 4W

nut

Query:

```

((((changetegr+ W in) OR (com+ W apart) OR (fal+ W apart) OR (split+ W up) OR break+ OR chang+ OR check+ OR crack+ OR sep+))
3D
((roaster W almdon+ OR nut+)) /BI/TX

```

AND

Add words

Classes

Inventor

Assignee

NOT

Exclude words

Classes

Inventor

Assignee

Adapt lenght to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

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Troncamento (sinistro e destro)

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Kompas


InputQuery


fac01976





Select database: Orbit


**Wipo**
Free patents database of the World Intellectual Property Organization


**Espacenet**
Free patents database of the European Patent Office


**Depatisnet**
Free patents database of the German Patents Office


**Uspto**
Free patents database of the United States Patent and Trademark Office


**GPSN**
This database will enable the user to search Chinese patent documents in the English or Chinese language


**Orbit**
Questel proprietary database for patents and design

**Thomson Reuters**
Thomson Reuters proprietary patents database


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Other bookmarks

KOMPAT

InputQuery

USPTOTitleAbstractDescriptionClaimsFull-text

crack

AND

nut

AND

NOT

Add words

Classes

Inventor

Assignee

Exclude words

Classes

Inventor

Assignee

Adapt lenght to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Send query

Export query

Query: USPTO DB: the query has exceeded the maximum number of characters: 256

(

(

(("came apart" OR "change integrity" OR "changed integrity" OR "changes integrity" OR "changing integrity" OR "come apart" OR "comes apart" OR "coming apart" OR "fall apart" OR "fallen apart" OR "falling apart" OR "falls apart" OR "fell apart" OR "split up" OR "splits up" OR "splitting up" OR break OR breaking OR breaks OR broke OR broken OR change OR changed OR changes OR changing OR check OR checked OR checking OR checks OR crack OR cracked OR cracking OR cracks OR separate OR separated OR separates OR separating)

)

)

AND

("roaster almdon" OR nut OR nuts)))

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Additional words:

Enter additional words you want to search for:

hammer

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Aggiunta parole per rifinire query

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KOMPAT

InputQuery

USPTO Title Abstract Description Claims Full-text

crack

AND

nut

Query: USPTO DB: the query has exceeded the maximum number of characters: 256

(TIU/(((("came apart" OR "change integrity" OR "changed integrity" OR "changes integrity" OR "changing integrity" OR "come apart" OR "comes apart" OR "coming apart" OR "fall apart" OR "fallen apart" OR "falling apart" OR "falls apart" OR "fell apart" OR "split up" OR "splits up" OR "splitting up" OR break OR breaking OR breaks OR broke OR broken OR change OR changed OR changes OR changing OR check OR checked OR checking OR checks OR crack OR cracked OR cracking OR cracks OR separate OR separated OR separates OR separating)

AND

("roaster almond" OR nut OR nuts))

AND

(hammer)))

AND

Add words

Classes

Inventor

Assignee

NOT

Exclude words

Classes

Inventor

Assignee

Adapt lenght to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

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Export query

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Exclude words

Enter words you want to exclude:

vacuum

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Esclusione parole

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KOMPAT

InputQuery

USPTO Title Abstract Description Claims Full-text

crack

AND

nut

Query: USPTO DB: the query has exceeded the maximum number of characters: 256

((ITL/(((("came apart" OR "change integrity" OR "changed integrity" OR "changes integrity" OR "changing integrity" OR "come apart" OR "comes apart" OR "coming apart" OR "fall apart" OR "fallen apart" OR "falling apart" OR "falls apart" OR "fell apart" OR "split up" OR "splits up" OR "splitting up" OR break OR breaking OR breaks OR broke OR broken OR change OR changed OR changes OR changing OR check OR checked OR checking OR checks OR crack OR cracked OR cracking OR cracks OR separate OR separated OR separates OR separating))

AND

("roaster almond" OR nut OR nuts))

AND

(hammer)))

NOT

((ITL/(vacuum)))

AND

NOT

Add words

Exclude words

Classes

Classes

Inventor

Inventor

Assignee

Assignee

Adapt lenght to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Send query

Export query

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Patent Classes: [CPC search](#) | [IPC search](#) | [USPC search](#)

Automatic CPC

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Patent Classes:

CPC search | IPC search | USPC search

[a23n5-08](#)
[a23n5-00](#)
[a23n5-002](#)
[a23n5-004](#)
[a23n5-006](#)
[a23n5-008](#)
[a23n5-01](#)
[a23n5-03](#)

Automatic CPC

a23n5-08: human necessities foodstuffs tobacco foods or foodstuffs their treatment, not covered by other classes machines or apparatus for treating harvested fruit, vegetables or flower bulbs in bulk, not otherwise provided for peeling vegetables or fruit in bulk apparatus for preparing animal feeding-stuffs machines for hulling, husking or cracking nuts for removing fleshy or fibrous hulls of nuts

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Generazione classi brevettuali

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KOMPAT Input Query

faco1976

Patent Classes:

CPC search | IPC search | USPC search

a23n5-08 x a23n5-00 x a23n5-002 x a23n5-004 x a23n5-006 x a23n5-008 x a23n5-01 x a23n5-03 x

Automatic CPC

a23n5-002: human necessities foodstuffs tobacco foods or foodstuffs their treatment, not covered by other classes machines or apparatus for treating harvested fruit, vegetables or flower bulbs in bulk, not otherwise provided for peeling vegetables or fruit in bulk apparatus for preparing animal feeding-stuffs machines for hulling, husking or cracking nuts

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Other bookmarks

KOMPAT Input Query

USPTO Title Abstract Description Claims Full-text

crack

AND

nut

AND

Add words

Classes

Inventor

Assignee

NOT

Exclude words

Classes

Inventor

Assignee

Adapt length to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Send query

Export query

Query: USPTO DB: the query has exceeded the maximum number of characters: 256

((TU((((("came apart" OR "change integrity" OR "changed integrity" OR "changes integrity" OR "changing integrity" OR "come apart" OR "comes apart" OR "coming apart" OR "fall apart" OR "fallen apart" OR "falling apart" OR "falls apart" OR "fell apart" OR "split up" OR "splits up" OR "splitting up" OR break OR breaking OR breaks OR broke OR broken OR change OR changed OR changes OR changing OR check OR checked OR checking OR checks OR crack OR cracked OR cracking OR cracks OR separate OR separated OR separates OR separating))

AND

("roaster almond" OR nut OR nuts))

AND

(hammer))

AND

(ccv("A23N5"))))

NOT

((TU(vacuum)))

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Aggiornamento automatico della query

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Other bookmarks

KOMPAT Input Query

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Inventors

Enter inventors you want to search for:

Rossi

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Filtro inventori

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KOMPAT

Input

Query

USPTO Title Abstract Description Claims Full-text

crack

nut

AND

USPTO

Title

Abstract

Description

Claims

Full-text

crack

nut

AND

AND

NOT

Add words

Classes

Inventor

Assignee

Exclude words

Classes

Inventor

Assignee

Adapt lenght to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Send query

Export query

Query: USPTO DB: the query has exceeded the maximum number of characters: 256

(ITU/(((("came apart" OR "change integrity" OR "changed integrity" OR "changes integrity" OR "changing integrity" OR "come apart" OR "comes apart" OR "coming apart" OR "fall apart" OR "fallen apart" OR "falling apart" OR "falls apart" OR "fell apart" OR "split up" OR "splits up" OR "splitting up" OR break OR breaking OR breaks OR broke OR broken OR change OR changed OR changes OR changing OR check OR checked OR checking OR checks OR crack OR cracked OR cracking OR cracks OR separate OR separated OR separates OR separating)

AND

("roaster almdon" OR nut OR nuts))

AND

(hammer))

AND

(IN/(rossi))

AND

(CCU("A23N5")))

NOT

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Input

Query


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Select database: Orbit




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Espacenet

Free patents database of the European Patent Office




Depatisnet

Free patents database of the German Patents Office




Uspto

Free patents database of the United States Patent and Trademark Office




GSPN

This database will enable the user to search Chinese patent documents in the English or Chinese language




Orbit

Questel proprietary database for patents and design




Thomson Reuters

Thomson Reuters proprietary patents database




Global Design Database

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Assignees

Enter assignees you want to search for:

Siemens

Filtro assegnatari

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Other bookmarks

KOMPAT Input Query

faco1976

Orbit Title Abstract Description Claims Full-text

crack

3D

nut

Query:

```

((((change W integrity) OR (come W apart) OR (fall W apart) OR (split W up) OR break OR change OR check OR crack OR separate)
3D
((roaster W almond) OR nut))
F
(hammer))//TI/OTI
AND
((rossi)//IN/INH/INV)
AND
((siemens)//PA/PAH/CWR/REAS)
AND
((a23n-005 OR a23n-005/01 OR a23n-005/03 OR a23n-005/08 OR a23n-005/002 OR a23n-005/004 OR a23n-005/006 OR a23n-005/008)//IC/CPC))
NOT

```

AND

Add words

Classes

Inventor

Assignee

NOT

Exclude words

Classes

Inventor

Assignee

Adapt length to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Export query

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Aggiornamento query

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KOMPAT

InputQuery

faco1976

Orbit

Title

Abstract

Description

Claims

Full-text

crack

nut

Query:

(((come W apart) OR (change W integrity) OR (changed W integrity) OR (changes W integrity) OR (changing W integrity) OR (come W apart) OR (comes W apart) OR (coming W apart) OR (fall W apart) OR (fallen W apart) OR (falling W apart) OR (falls W apart) OR (fell W apart) OR (split W up) OR (splits W up) OR (splitting W up) OR break OR breaking OR breaks OR broke OR broken OR change OR changed OR changes OR changing OR check OR checked OR checking OR checks OR crack OR cracked OR cracking OR cracks OR separate OR separated OR separates OR separating)

3D

((roaster W almond) OR nut OR nuts))

F

((hammer)) /TI/OTI

AND

((rossi) /IN/INH/INV)

AND

((siemens) /PA/PAH/CWR/REAS)

AND

((a23n-005 OR a23n-005/01 OR a23n-005/03 OR a23n-005/08 OR a23n-005/002 OR a23n-005/004 OR a23n-005/006 OR a23n-005/008) /IC/CPC))

AND

Add words

Classes

Inventor

Assignee

NOT

Exclude words

Classes

Inventor

Assignee

Adapt lenght to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Export query

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Results 1-10 of 32 for Criteria:(EN_ALLTXT:(("change integrity" OR "come apart" OR "fall apart" OR "split up" OR break OR change OR check OR crack OR separate) AND (nut) AND (hammer)) AND (PA:(siemens))) Office(s):all Language:EN Stemming: true

prev 1 2 3 4 next Page: 1 / 4 Go >

Refine Search (EN_ALLTXT:(("change integrity" OR "come apart" OR "fall apart" OR "split up" OR break OR change OR check OR crack OR separate) AND (nut) AND (hammer)) AND (PA:(siemens))) Search RSS

Instant Help

Analysis

Sort by: Relevance View: All List Length: 10 Machine translation

Int.Class	Appl.No	Title	Applicant	Ctr	PubDate
1. 20110148231	Nut	securing arrangement for electrical generator		US	23.06.2011
H02K 11/00	12640090	Whitener Randy E.		Whitener Randy E.	
<p>A system for securing a nut (24) used to compress a compliant seal (23) surrounding a radial conductor lead (21) of an electric generator (10). The generator has a rotor (11) with the radial conductor lead arranged in a radial lead bore (20) of the rotor and the seal coaxially arranged surrounding the radial lead. A receiving pocket (15) is arranged in a body of the rotor adjacent to the radial lead bore. The nut is arranged coaxially with the radial conductor lead, the nut including a seal contacting surface (35) and a ligament (26) arranged opposite the seal contacting surface, wherein a portion of the ligament is deformed into the receiving pocket to lock the nut against rotation, thereby maintaining a desired degree of compression on the seal.</p>					
2. 4946209		Fast-acting clamping device for releasably connecting two components		US	07.08.1990
F16B 21/00	07313620	Siemens Aktiengesellschaft		Stauner Jakob	
<p>A fast-acting clamping device for releasably connecting first and second components includes a bolt passing through an opening in the first component and having one end with a head and another end with an anchoring device anchored in an opening in the second component. A cylinder is disposed on the first component, a piston is disposed in the cylinder and a rod is connected to the piston. A lever configuration is connected between the rod and the bolt for generating a clamping force between the head and the first component when a pressure medium is applied to the cylinder.</p>					
3. 5517538		Safety device protecting a nuclear reactor pressure vessel against overpressure failure		US	14.05.1996
G21C 9/004	08298568	Siemens Aktiengesellschaft		Seidelberger Hartmut	
<p>A nuclear reactor has a pressure vessel with an interior, a coolant conducting surface, such as a wall of the pressure vessel or a line passing through the wall of the pressure vessel, a pressure relief line, and a core. A safety device which protects the pressure vessel against overpressure failure upon inadequate cooling of the core includes a pressure relief valve being pressure-tightly inserted into the coolant conducting surface and having a seat, a closure element normally disposed on the seat for blocking a flow from the interior of the pressure vessel to the pressure relief line, an abutment, and a valve closing spring holding the closure element and being supported against the abutment. A force transmission element holds the abutment and has an end facing away from the abutment. A detent is disposed in the pressure vessel and fixes the end of the force transmission element. The detent is releasable in dependence on a given threshold temperature, for example 700.degree. C., for freeing the abutment and lifting the closure element off the seat as a result of a pressure differential.</p>					
4. 4850600		Sealing device for pipe connectors discharging into a vessel, in particular a steam generator		US	25.07.1989
F16J 13/00	07127801	Siemens Aktiengesellschaft		Kaetscher Erich	

Lancio della query su Wipo

Kompat 3 | Intellige x 4946209 Fast-acting x WIPO - Search Inte x WIPO - Search Inte x WIPO - Search Inte x WIPO - Search Inte x WIPO - Search Inte x E Espacenet - Classifi x New Tab x

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Other bookmarks

KOMPAT Input Query

fac01976

WIPO Title Abstract Description Claims Full-text

crack

query.txt - Notepad

```
File Edit Format View Help
Wed Nov 30 2016 15:08:55 GMT+0100 (W. Europe Standard Time)
WIPO

(EN_ALLTXT:(((("change integrity" OR "come apart" OR "fall apart" OR "split up" OR
break OR change OR check OR crack OR separate) AND (nut)) AND (hammer)) AND (PA:
(siemens)))
```

Query:

```
(EN_ALLTXT:(((("change integrity" OR "com
AND
(nut))
AND
(hammer))
AND
(PA:(siemens)))
```

AND Add words Classes Inventor Assignee

NOT Exclude words Classes Inventor Assignee

Adapt lenght to database

Truncation (e.g. crack*)

Normal

Stemming (e.g. crack, cracks, cracked, cracking)

Copy query

Send query

Export query

Opening query.txt...

Show all x

Export testuale della query

Kompat 3 | Intellige x 4946209 Fast-actin x WIPO - Search Inte x WIPO - Search Inte x WIPO - Search Inte x WIPO - Search Inte x WIPO - Search Inte x E Espacenet - Classifi x New Tab x

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fac01976

More specific

Verb

☒ More specific words (e.g: clean > sterilize)

Level:

Object

☒ More specific words (e.g: nut > brasilian nut)

Level:

Broad words

Verb

☒ More specific words (e.g: clean > sterilize)

Level:

Object

☒ More specific words (e.g: nut > brasilian nut)

Level:

Variants

Verb

☒ Verb-forms (-s, -ed, -ing, -irregular)

☒ Substantive (-action, -able, -er)

Object

☒ Plural (eg: child/children)

☒ Sister-words (eg: nut/nutty)

Truncation

Verb

☐ Left truncation

☒ Right truncation

Object

☐ Left truncation

☒ Right truncation

save

Settings delle funzionalità semantiche

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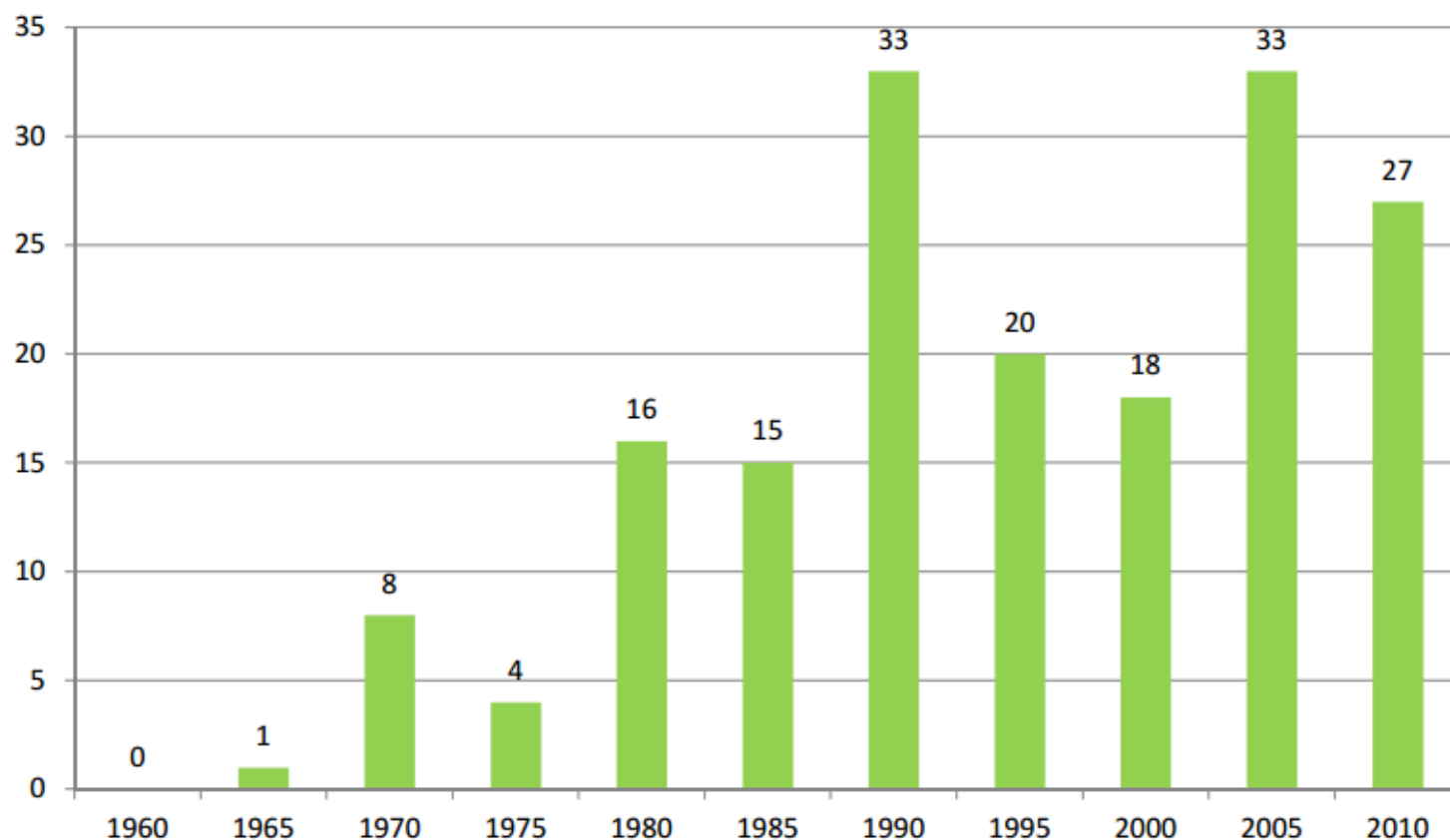
kompat@bigflo.it

Servizi di ricerca e analisi

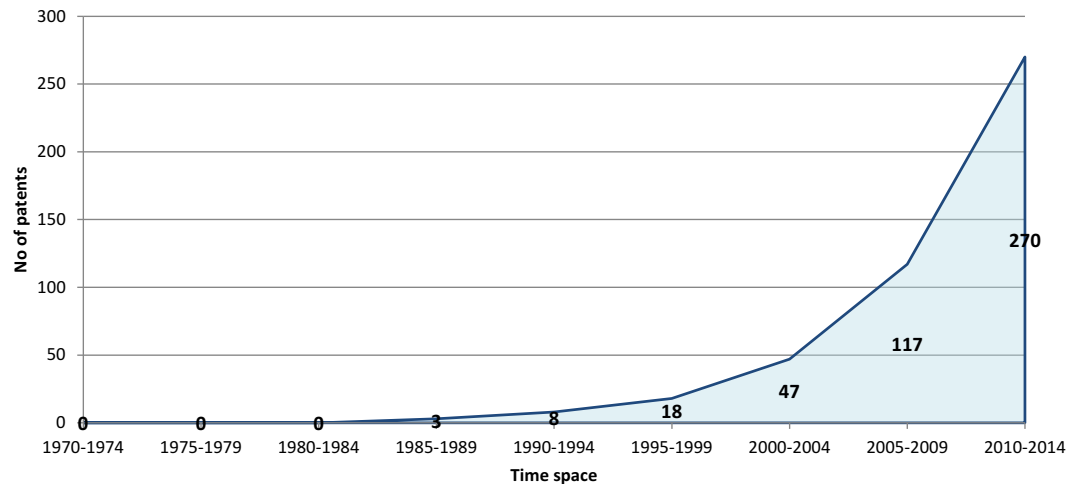
Via Galvani, 2E
24044 Dalmine (BG)
C/O Università di Bergamo
Tel. +39 035 205 2353 ; Fax. +39 035 039 3015
bigflo@bigflo.it



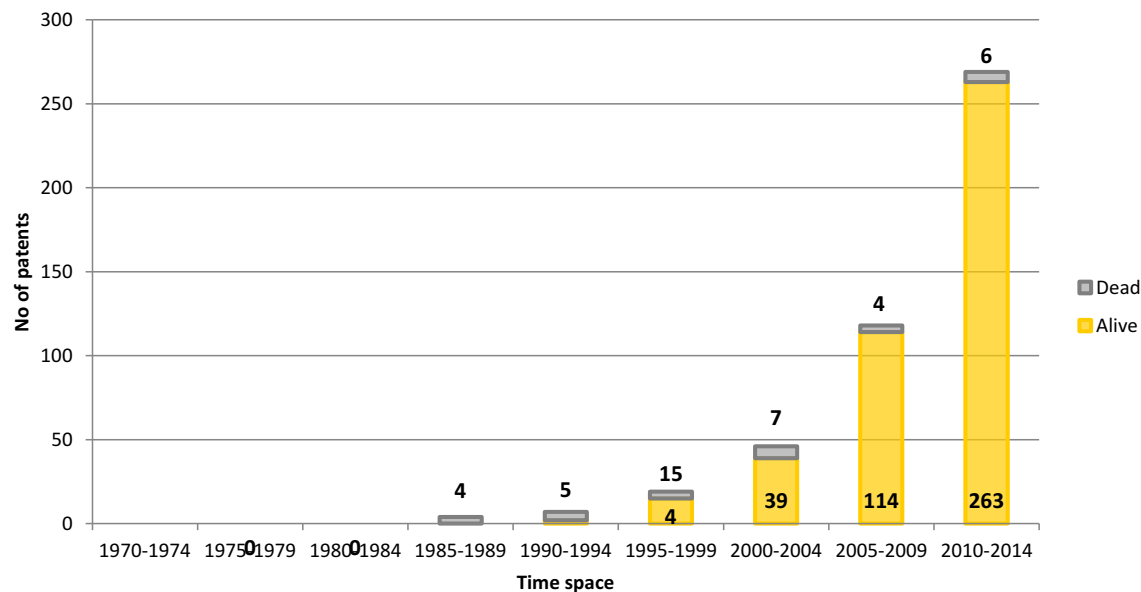
Hairdryers with battery - Patent distribution per year



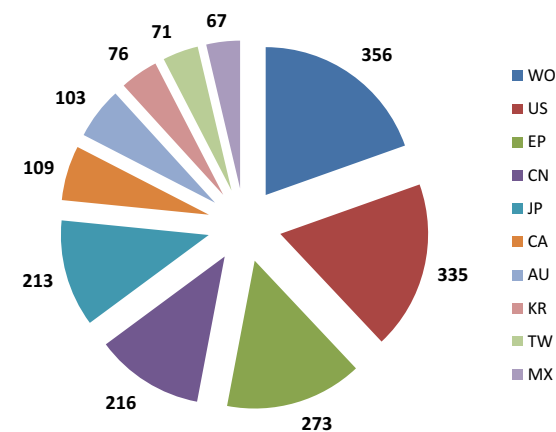
Patents - Time distribution



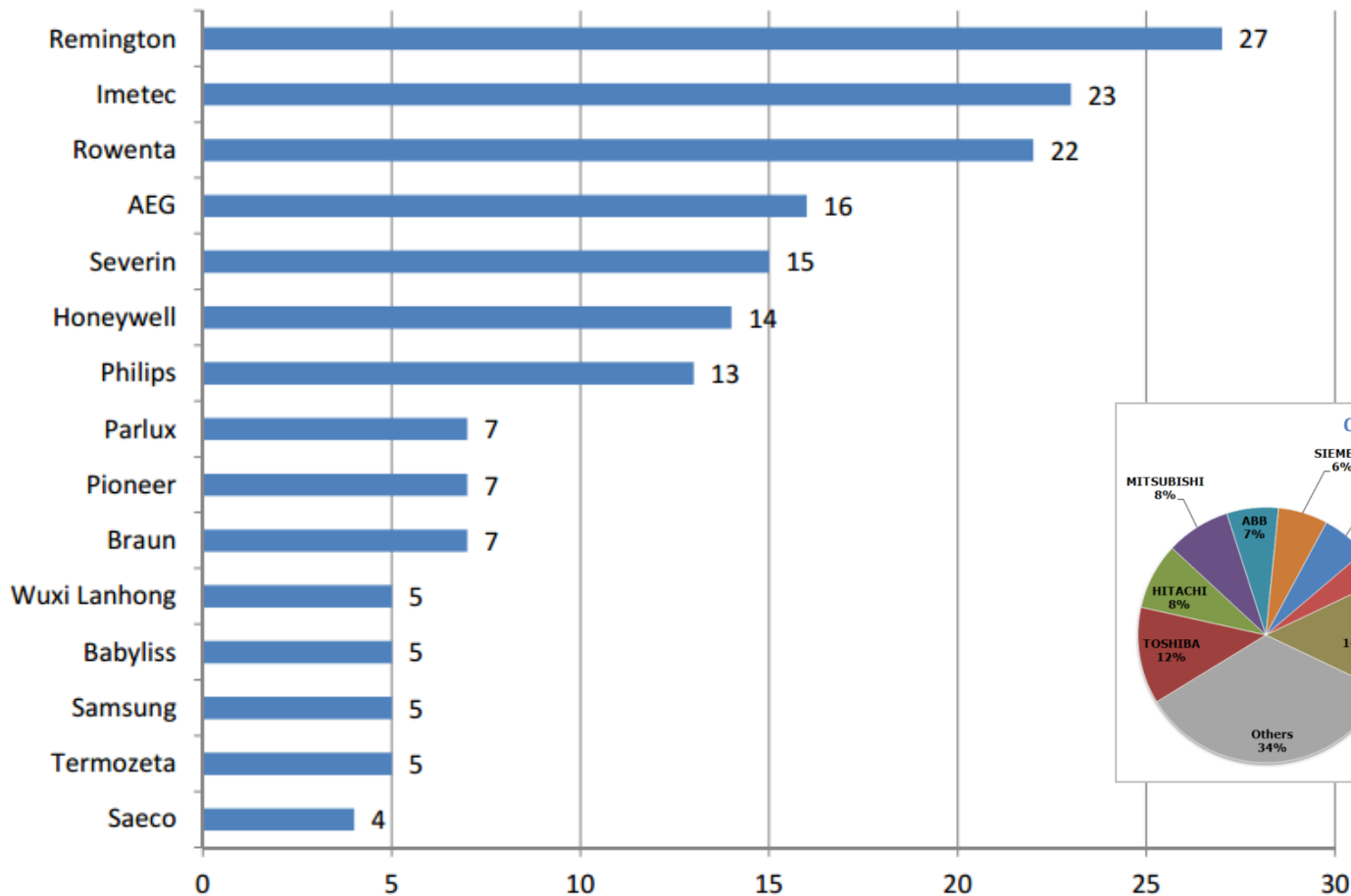
Alive VS Dead - Time distribution



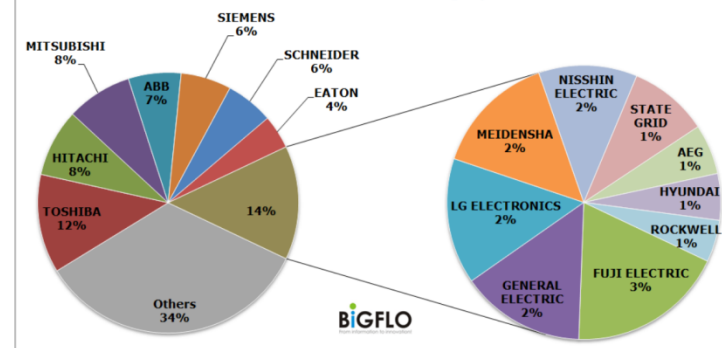
Countries



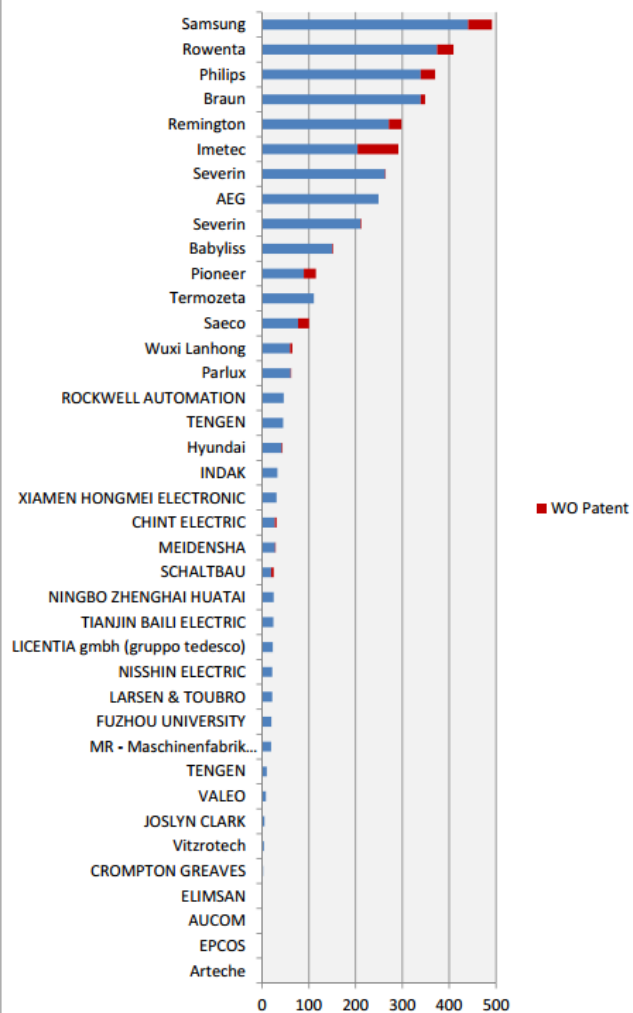
Tot. Patents Hairdryers with battery



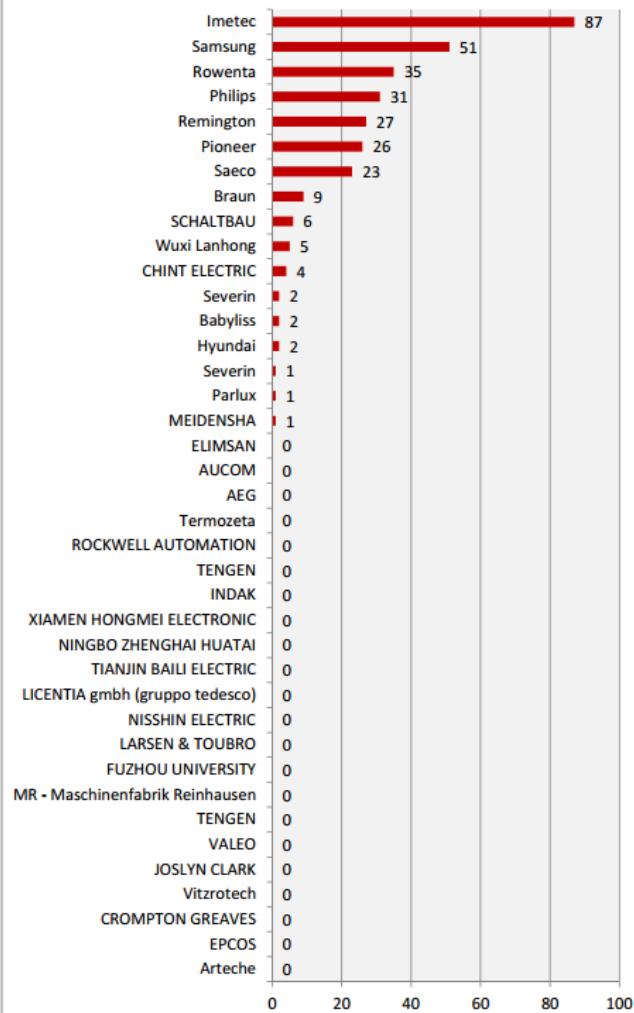
Circuit breakers: TOP players in %



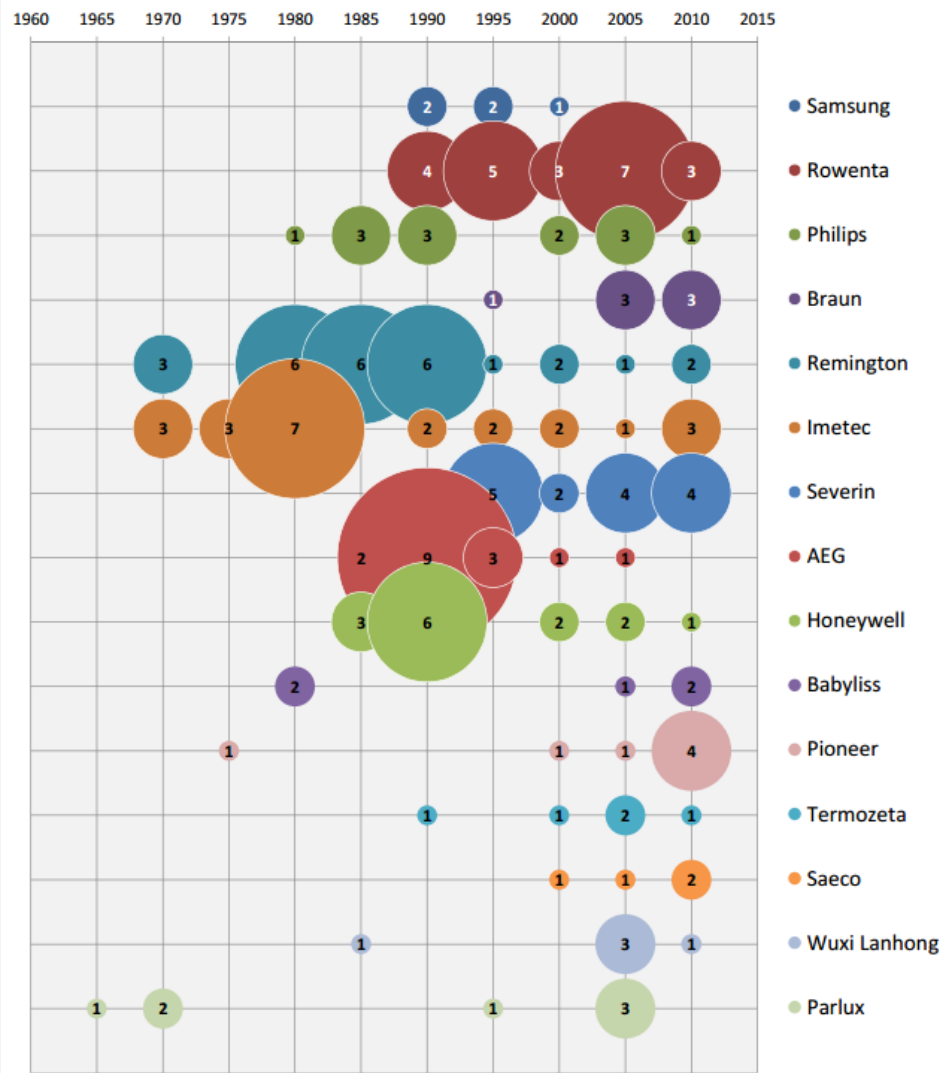
Tot. Patents - Hairdryers in general



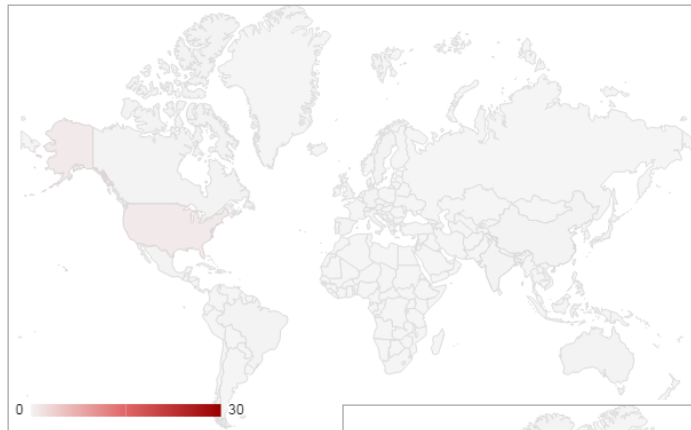
WO Patents - Hairdryers in general



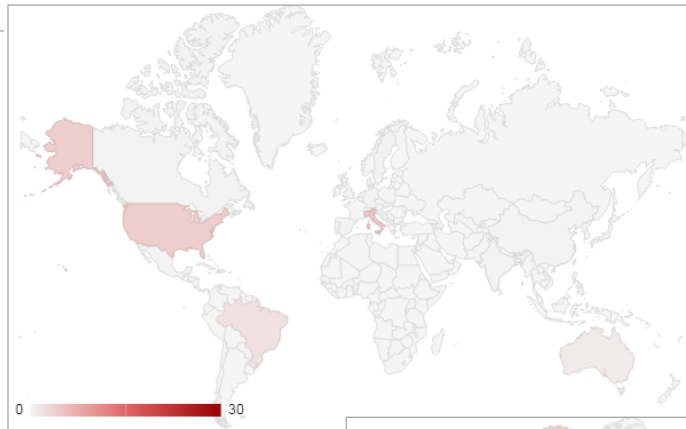
Hairdryers with battery - Competitors



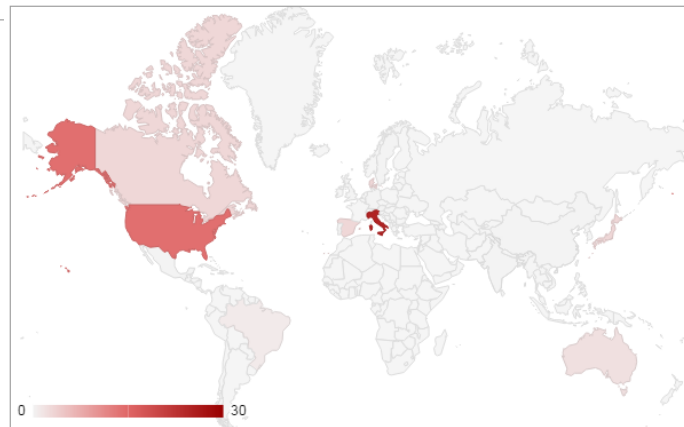
Evolution of Geographical distribution



2000-2004



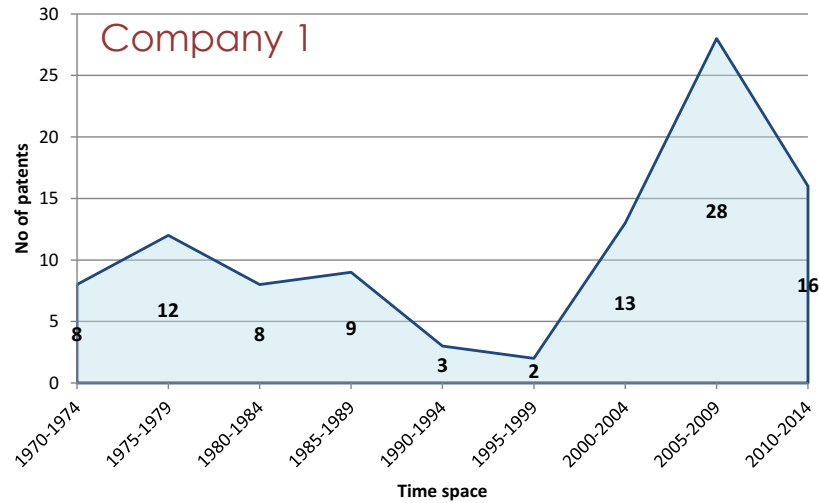
2005-2009



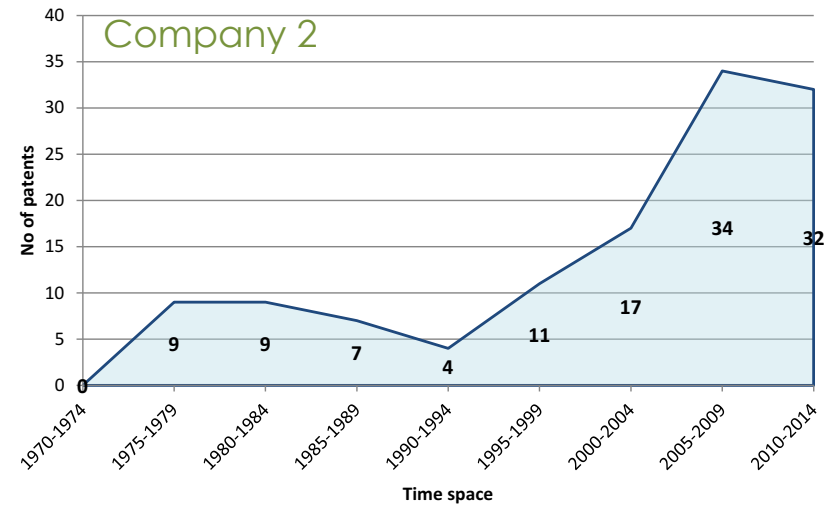
2010-2014

Competitors Comparison: Patent Trends

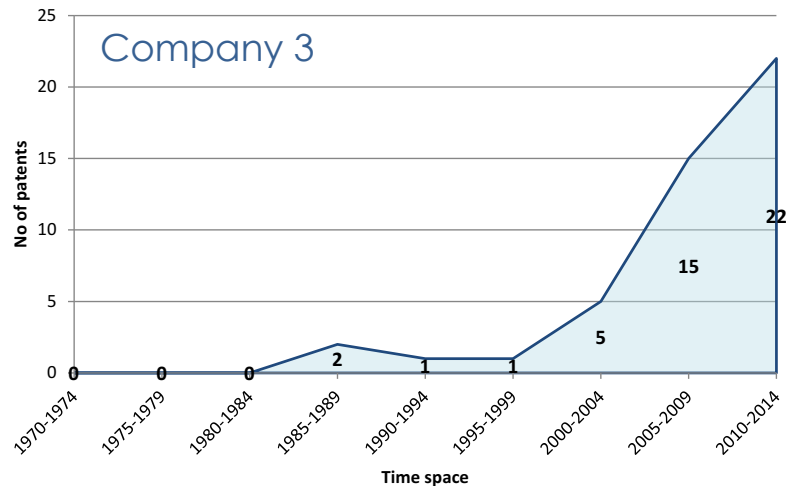
Patents - Time distribution



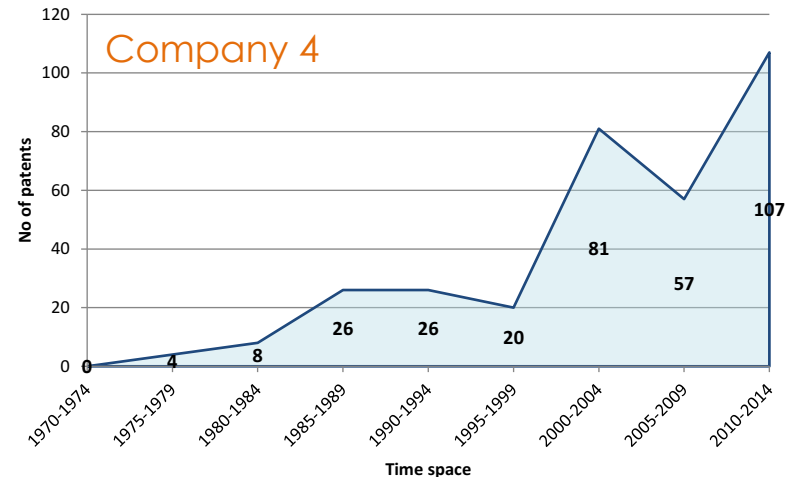
Patents - Time distribution



Patents - Time distribution

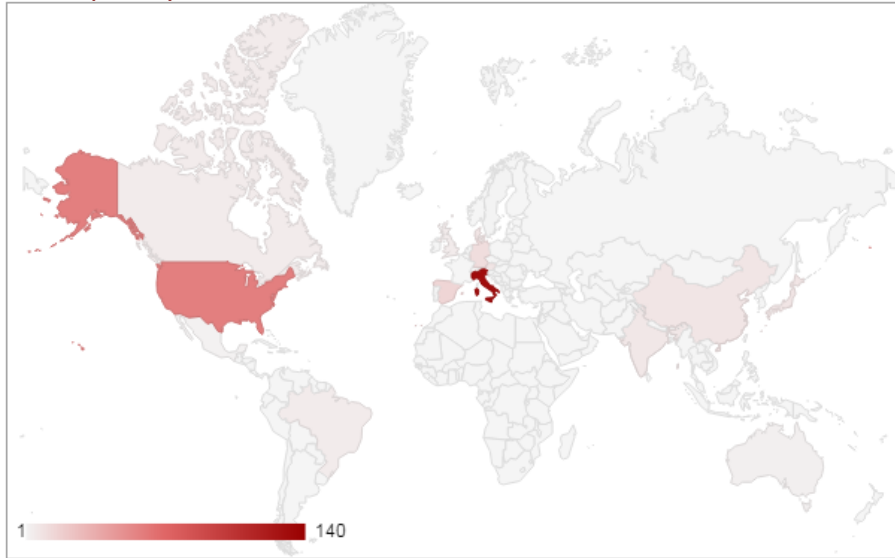


Patents - Time distribution

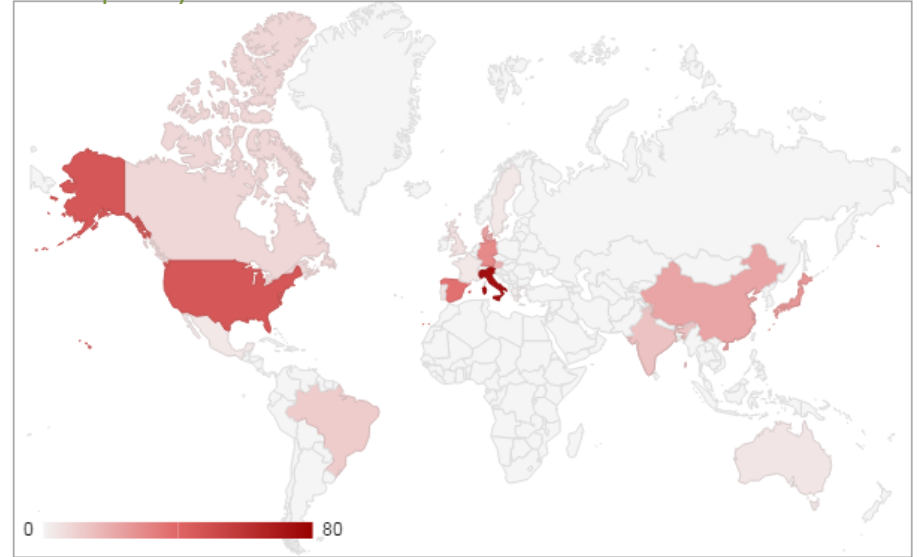


Competitors comparison: Geographical distribution

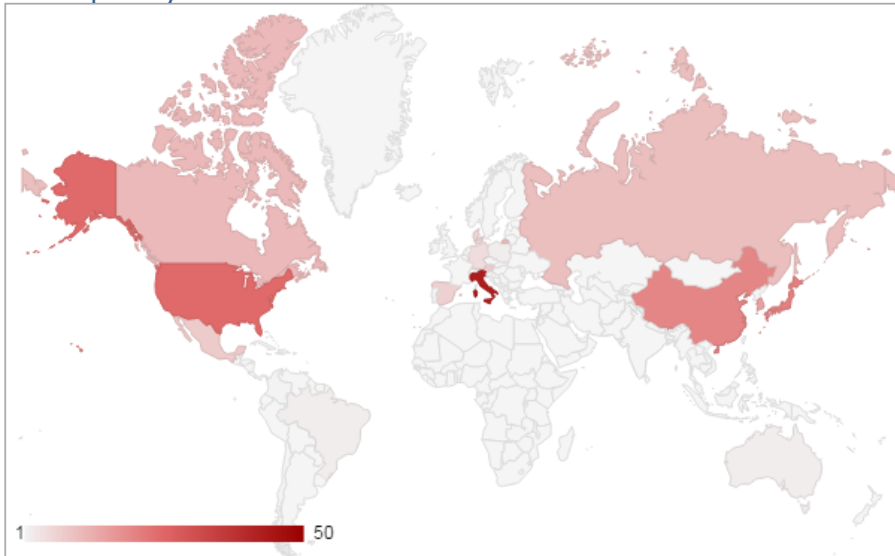
Company 1



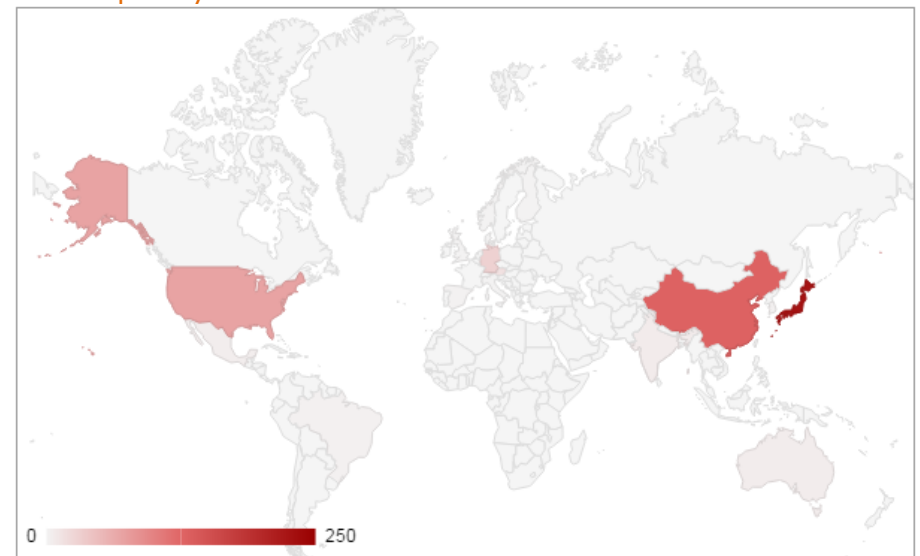
Company 2

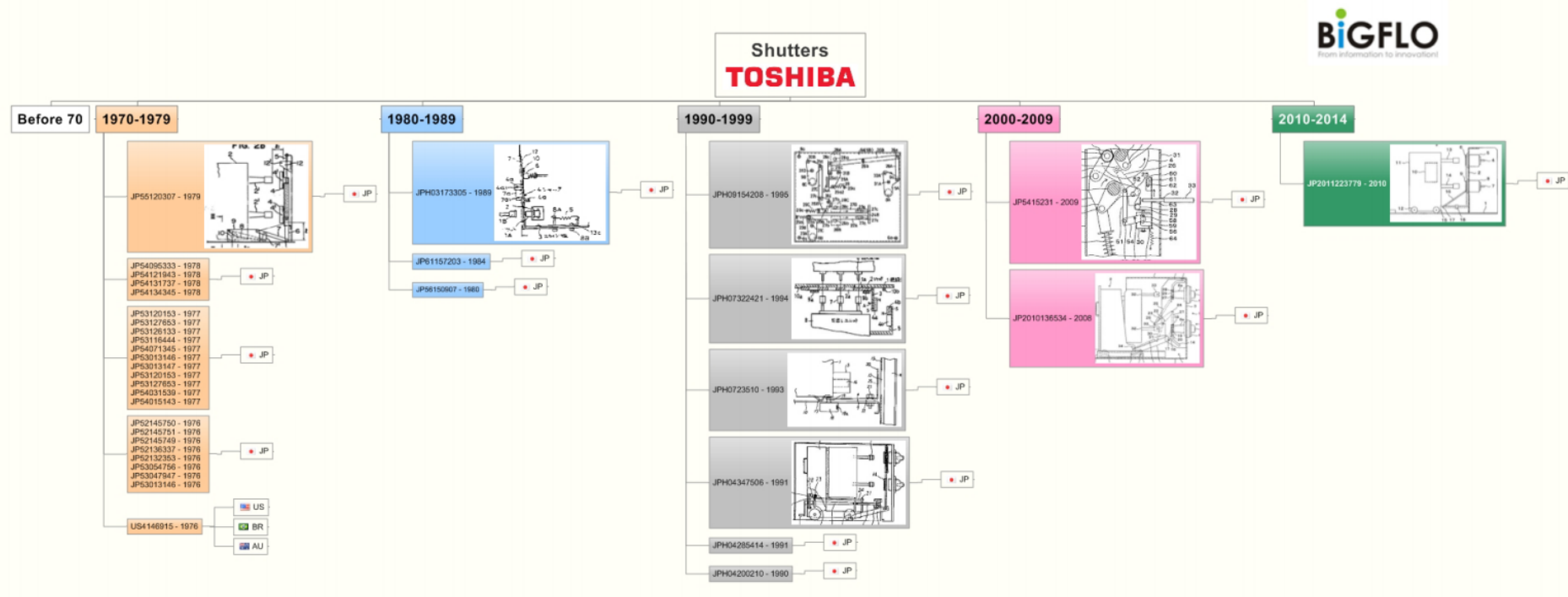


Company 3

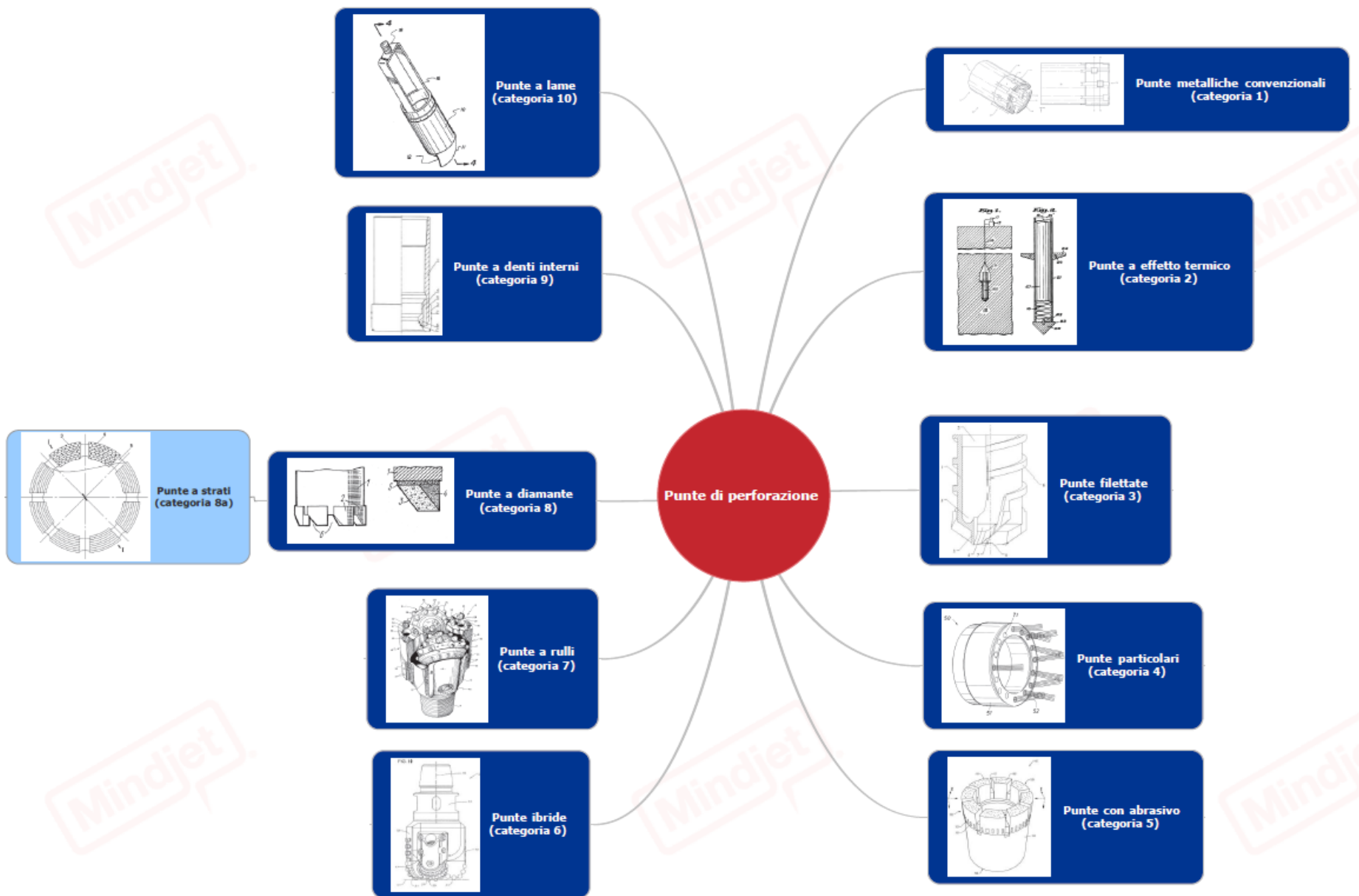


Company 4



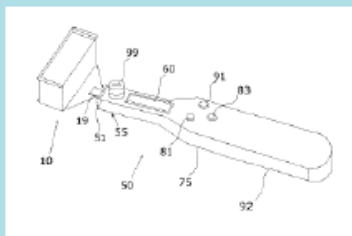


Toshiba is the company with the highest number of patents on shutter: 37. In the late 70's Toshiba filed 25 patents but it is still active nowadays (3 patents since 2000). The protection strategy is generally limited to Japan.



**Sistemi di
misurazione del
contenuto di umidità
nel manto nevoso**

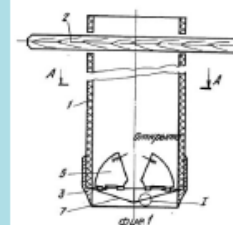
**Metodi elettrici
(categoria 4)**



Piezoelettrici

Costante dielettrica

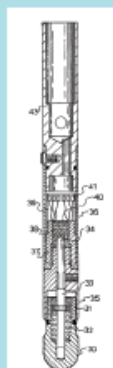
**Metodi a campionamento
(categoria 1)**



Meccanico

Termico

**Metodi a forze
(categoria 3)**



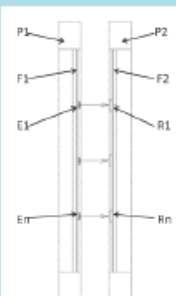
Galleggiamento

Compressione

Cella di carico

Centrifuga

**Metodi a onde
(categoria 2)**



Ultrasuoni

Fotoelettriche

Acustiche

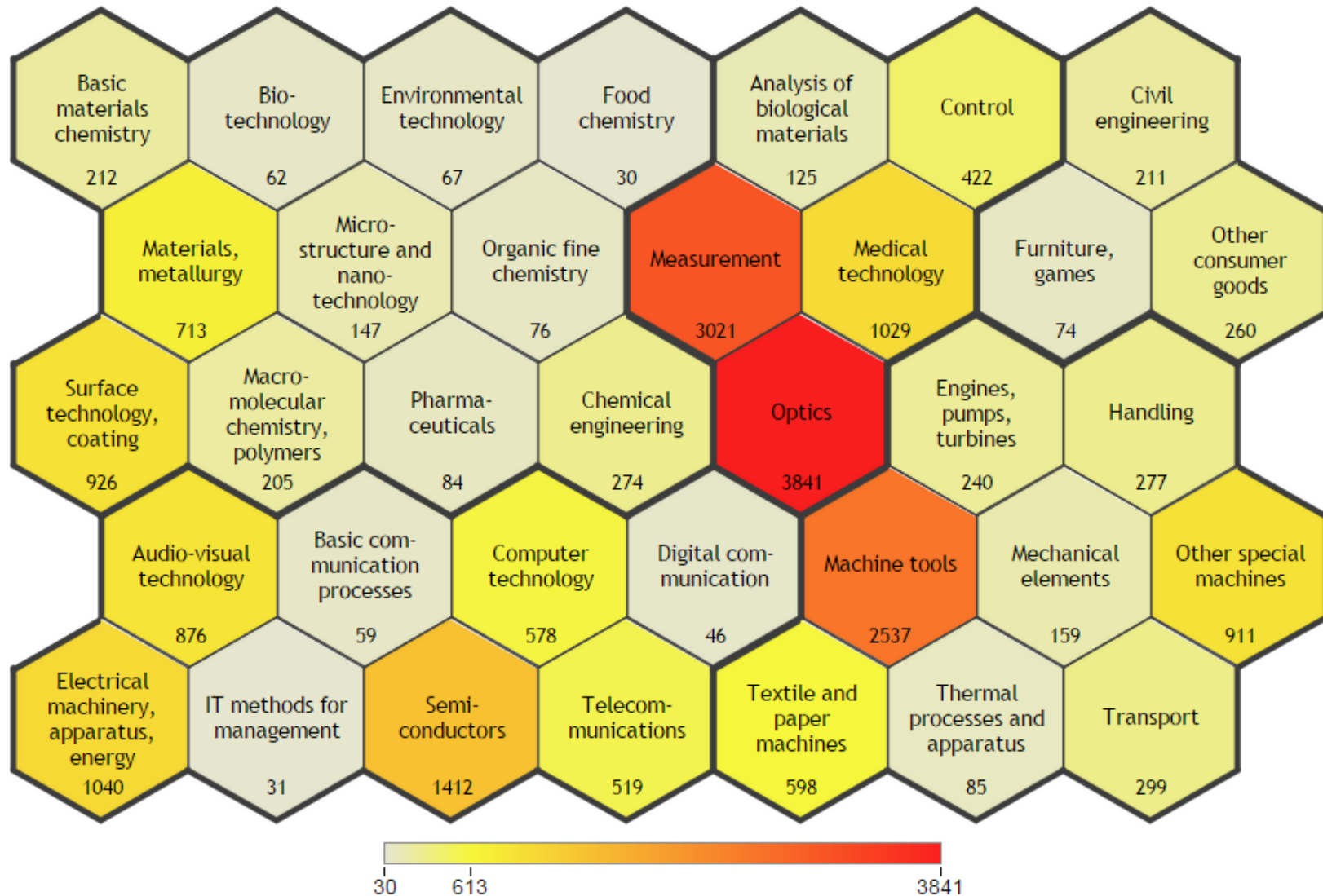
O.E.M

Raggi gamma

Radar

Infrarossi

Laser technology: Identification of the application fields



Vacuum Interrupter



14

- WO200381622
- WO2011107255
- WO200388291
- EP1742242
- US2012118858
- US2010032412
- US2013075368

- Increased safety
- Increased safety, Cost saving
- Convenience in installation
- Introducing a transparent part



24

- Utilize a plurality of arc-extinguishing plates and reducing size
- Save space
- Gas device
- Absorbing shocks in the bellow
- Preventing deterioration of insulation performance
- Arc chamber simplify design
- Arc chamber simplify design
- Arc chamber simplify design
- Increase withstand voltage
- Arc chamber rod
- Arc shield Manufacturing



13

- DE10305464
- WO200943769
- WO200603114
- EP2634785
- IN2009KN03282
- EP2351060
- EP2137749
- WO2009138397
- DE102008049434
- EP1756924
- Adjusting electrical potential of vapor shield
- Improved heat dissipation



06

- GB201321317
- KR20090109507
- KR20090109502

- Safety
- Simplify design



07

- CN201233857U
- CN102234201
- DE202007003867

- Cost saving
- Protection
- Insulation



06

- Utility Model
- Fixing the insulating container with the arc shield



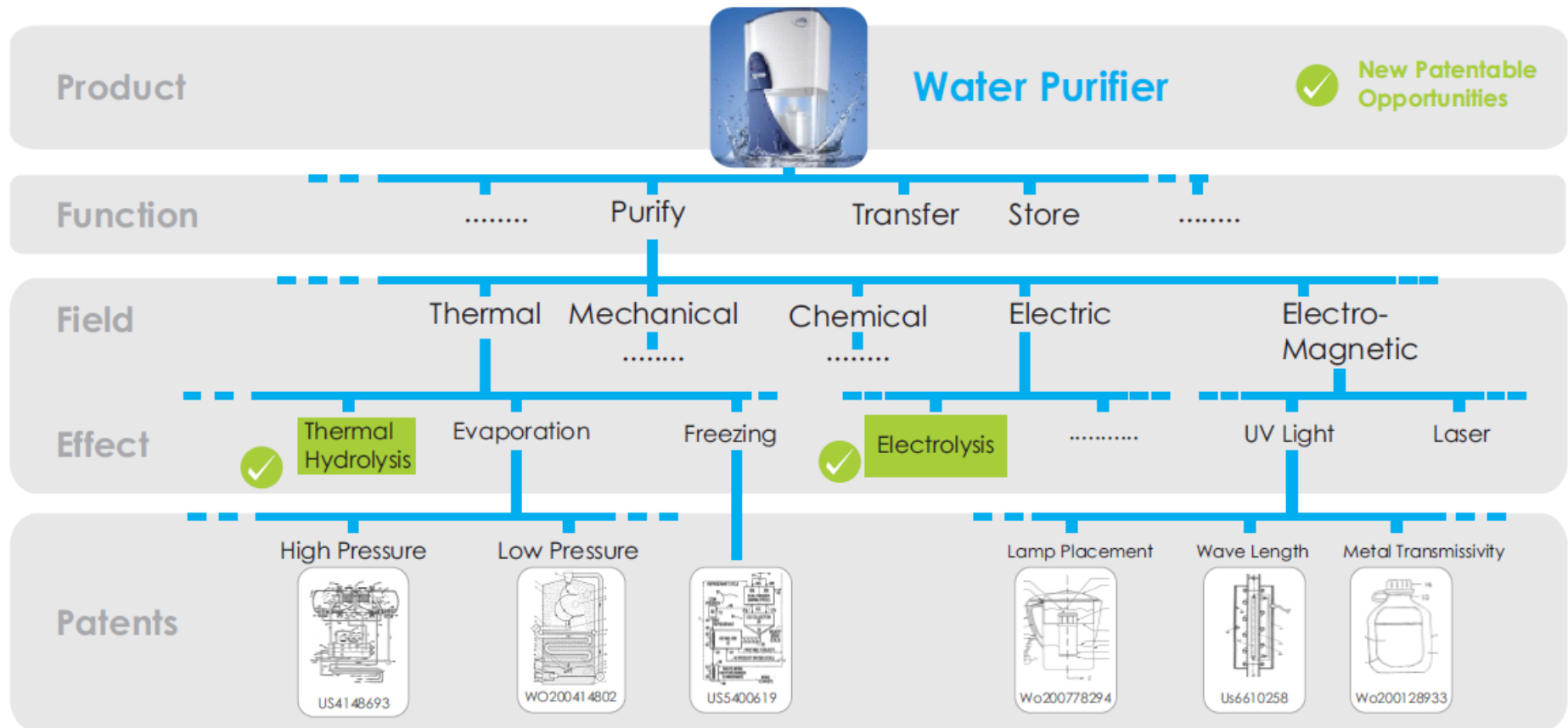
34

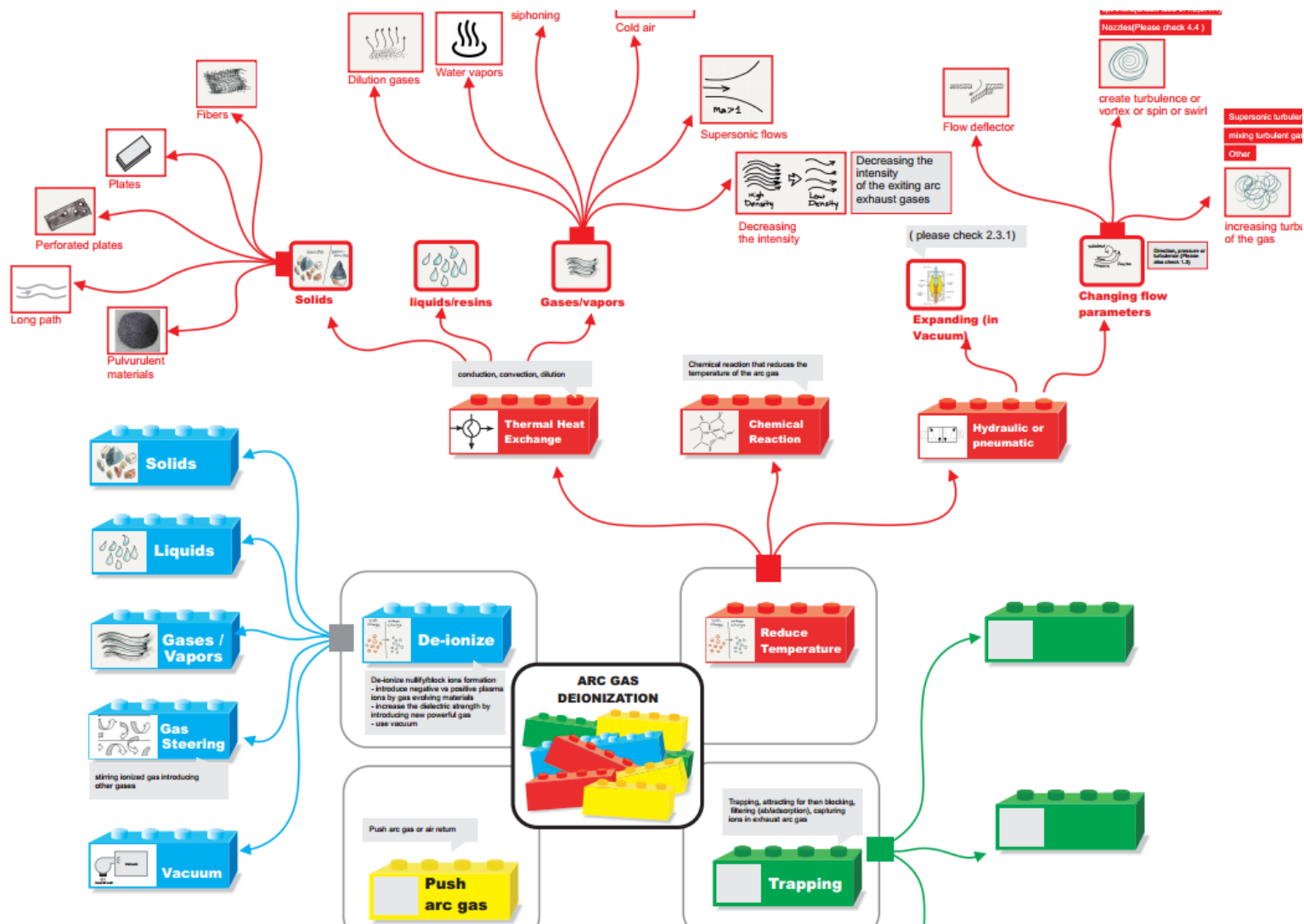
- NO911170
- EP1583124
- EP1912235
- WO2013116982
- EP2261940
- FR2979476
- FR2971884
- EP2026432
- EP1912235
- EP1873804
- FR2980633
- EP1845540
- EP1897107
- EP2085995
- WO2013175112
- EP2736061
- EP2736059
- FR2995131

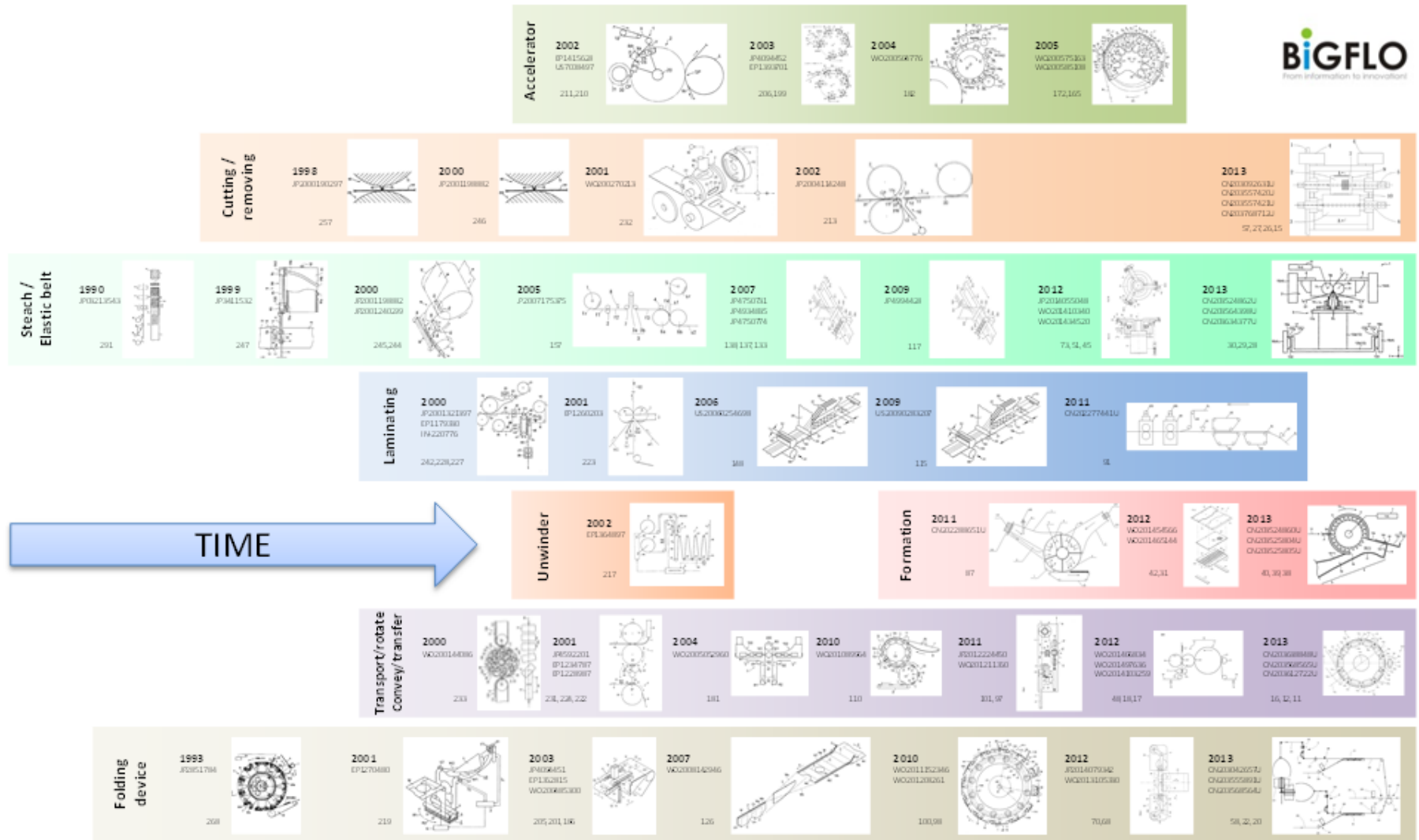
- CN202650964
- FR2969367
- EP2483900
- EP2375434

- WO2011120590
- FR2881571
- CN201369288U
- CN201117546
- EP1938350
- EP2638554

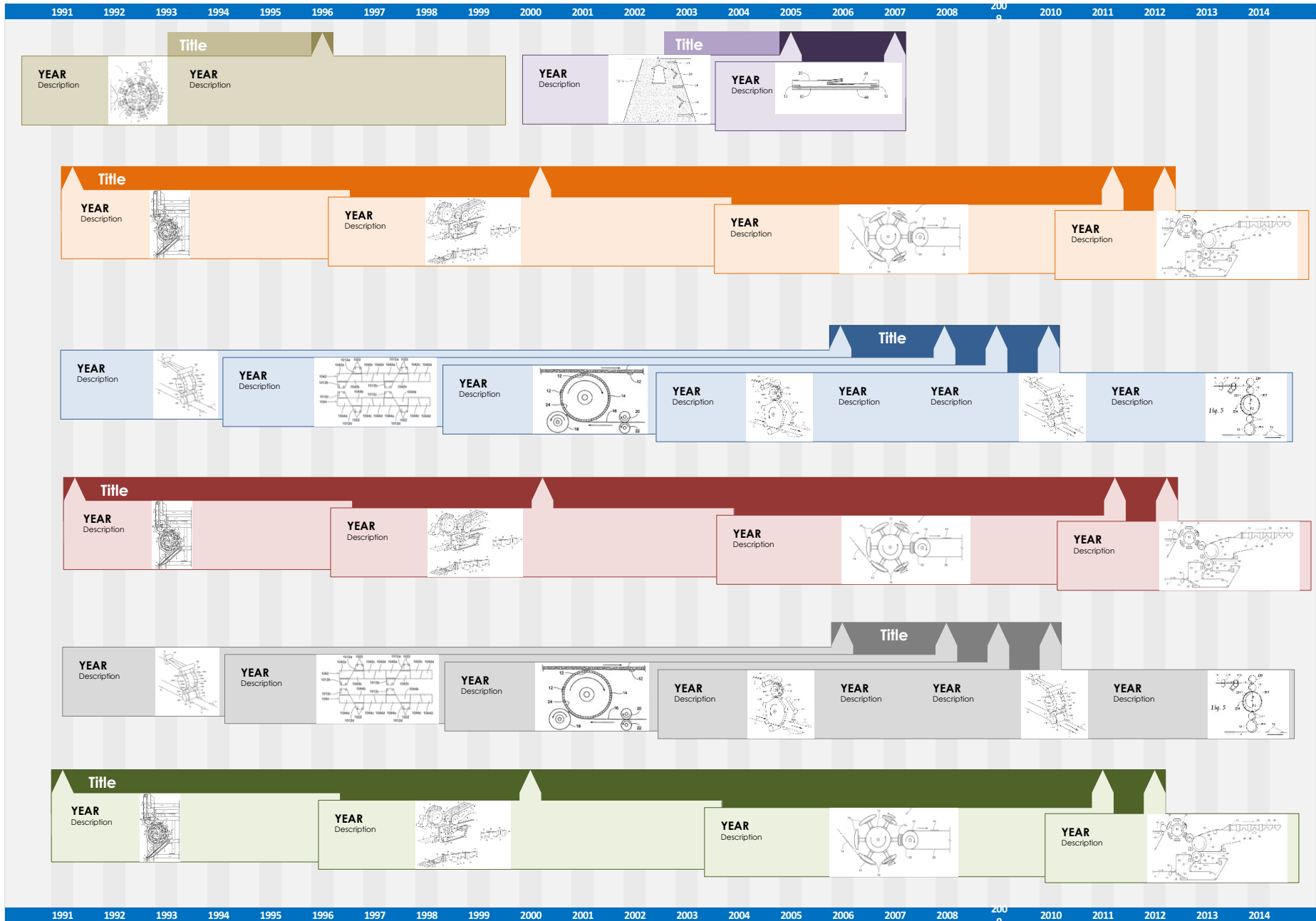
- EP1610352
- EP-924827
- CN103165337
- EASY ASSEMBLY
- MAKE COMPACT
- ABSORBING SHOCK







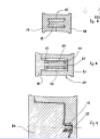
- JOA brevetto poco su pannolino (meno del 10%) e fino agli anni 80, Quasi sempre su Fasten ...
- Compare con nomi diversi JOA 116 volte, Scoffo paper, Mational city bank, Joa curt, Falls paper & power
- Solo 1/3 dei brevetti è stato esteso in europa, il resto sono solo brevetti per il mercato americano e canadese
- Quasi inesistenti i WO



DEGREE OF HUMAN INVOLVEMENT

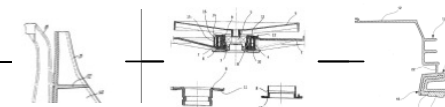
Back plate
with pattern
GB2121834 1984
Reed Int PLC

Tub with different
plasting moulding
EP029115 1987 Zanussi



FROM MACRO TO MICROLEVEL

Hub inside plastic pump
EP1538252 2005 Electrolux



TRIMMING

FIG. 3



Tub joined to case EP1433890
2004 LG Electr.

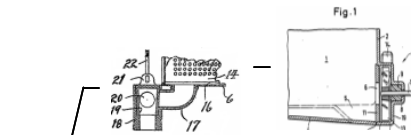
EXPANSION - CONVOLUTION

DYNAMIZATION

Tub filled with isolation material
DE3834112 1990 Licentia

DEGREE OF VOIDNESS

MONO-BI-POLY



Shell fitted
over a casing
IT1143880 1977
Zanussi

Fixing
brackets

Deletion fixing brackets
US20044148981 2004

TRIMMING

Tub with 2
Plastic shells
IT1181072 1985
Zanussi

Steel tub and steel support
IT1169242 1981 Candy

Reinforced metal ring
IT1230168 1991 Merloni

Tub-Drum
Division
GB176198
1922

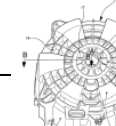
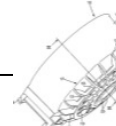
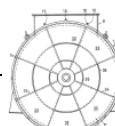
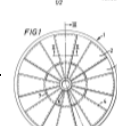
Mono-Tub
US1389090 1921

Plastic band
with metal
disc
IT1067355 1976
IRE

Back plate
with pattern
GB2121834 1984
Reed Int PLC

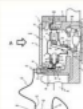
Improved
pattern
GB2333300
1999

Patterns for express
cooling
EP1538252 2005
Electrolux

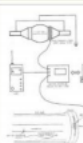


Vacuum Detection & Measure

Electrical devices



JP5222230 - HITACHI - 2010
DC voltage generating device 106 which is connected electrically to the conductor 17 of the metal part and impresses the metal part 17, and a means 108 of measuring potential fluctuations of the metal part



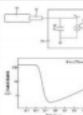
US2003214307 - POWER SYSTEM DIAGNOSIS TECH - 20002
Disclosed is a device for detecting a partial discharge of power equipment. EM (electromagnetic wave) sensors detect EM signals from a partial discharge in a metal clad switchgear, a power cable, and a GIS. EM detectors amplify the signals from the sensors, and output only noise-reduced IF signals. A pulse generator integrates the IF-processed EM to compare the integrated value with a previous value, and outputs a pulse according to a partial discharge. An EM level processor compares the IF-processed EM with reference voltages to output EM pulses of a plurality of levels. A waveform shaper shapes the pulses. A controller calculates the average number of pulses per 1 cycle by counting the partial discharge pulses for a predetermined time, receives the waveform-shaped pulses to calculate the partial discharge amount, and transmits the calculated amount, combined with the average number, to an external monitoring system.



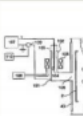
US20080163712 - KOREA ELECTRIC - 2003
A diagnosis apparatus for a switchgear comprises a sensing unit which detects a partial discharge signal of the switchgear, an amplifying unit which amplifies the partial discharge signal detected from the sensing unit, a frequency spectrum generation unit which converts the amplified partial discharge signal into a frequency spectrum, and an analysis-diagnosis unit which analyzes and diagnoses the frequency spectrum.



CN1125978 - TSINGHUA UNIVERSITY - 2001
An in-line detection method for the vacuum level of discharge-type vacuum arc-quenching chamber in vacuum breaker features that a discharge gap formed by float potential body is arranged at the position having a certain electric field intensity in the vacuum arc-quenching chamber. When voltage and vacuum level are in normal range, no discharge occurs. When vacuum level is lowered, discharge occurs in the gap. Detecting the discharge state can measure the vacuum level in arc-quenching chamber.



JP5501263 - HITACHI - 2010
PROBLEM TO BE SOLVED: To provide a vacuum insulated switch including a function diagnosing soundness of vacuum pressure during a continuous operation without causing power interruption in inspection.
SOLUTION: A vacuum insulated switch according to the present invention includes a vacuum valve 1 closing and interrupting current while an inside of the vacuum valve is vacuum, an intermediate shield 5 arranged within the vacuum valve 1, and a vacuum measuring terminal 12 having at least a part of a face where a closest opposing distance relative to the intermediate shield 5 is approximately constant.

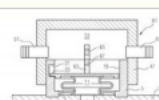


JP2000173418 - MITSUBISHI - 1998
PROBLEM TO BE SOLVED: To provide a vacuum load-break switch which can precisely and easily detect a degree of vacuum without being influenced by a noise and the like of an electric circuit under both charging and interrupting conditions of the electric circuit.
SOLUTION: This device is provided with a pair of metallic gaps 101, 104 which are insulated from a pair of electrodes in a vacuum vessel 43. The device is also provided with a power source 107 which applies voltage to the pair of metallic gaps 101, 104, and magnetic field generating means 103, 108 which apply magnetic field on the metal gaps 101, 104 outside the vacuum vessel 43. The device measures a degree of vacuum inside the vacuum vessel 43 by detecting a current flowing between the pair of metal gaps 101, 104.

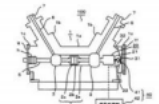


JP5222230 - HITACHI - 2009
PROBLEM TO BE SOLVED: To provide a pressure diagnostic device of a vacuum circuit breaker.
SOLUTION: The pressure diagnostic device 100 of a vacuum circuit breaker is provided with a vacuum container 11 which has built in a pair of electrodes 10A

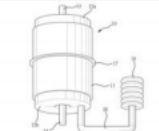
Mechanical device



WO200816789 - SIEMENS - 2007
A leak sensor (1) for monitoring the vacuum in a vacuum switching tube has a deformable partition, particularly in the form of a membrane or a bellows (13). The partition is connected to the vacuum chamber of a vacuum switching tube via a measurement opening (9). When the vacuum chamber of the vacuum switching tube is vented, the membrane or bellows (13) is deformed, said deformation being detectable by a mechanical indicator device (25), an optical device, or an electro-optical device (1).



WO2013084354 - MITSUBISHI - 2011
Provided are a vacuum switchgear with a vacuum-degradation detection device for determining the degradation of the vacuum inside a vacuum valve (2), and a method for detecting the vacuum degradation of a vacuum switchgear. The load acting on a cylindrical vacuum container (2a) in the direction in which a fixed contact element (2b) and a movable contact element (2c) face each other is measured through the intermediary of an insulating member (21) and a correcting fitting (22) by a load sensor (41) linked to the vacuum container (2a) of the vacuum valve (2), and a signal processor (42) calculates the variation over time of the load.

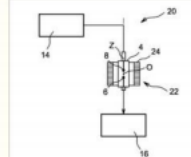


KR101264226 - KOREA ELECTROTECHNOLOGY RESEARCH INSTITUTE - 2011
PURPOSE: pressure gradient detecting device in a current breaker for a vacuum interrupter is provided to prevent failure in a VI (Vacuum Interrupter) by sensing the inner pressure of the VI while driving.
CONSTITUTION: A vacuum bellows (16) is connected to the inside of a VI. The bellows is newly built according to the VI inner pressure change. An approach sensing sensor is installed in one side of the bellows. The approach sensing sensor senses changes in

Magnetical device

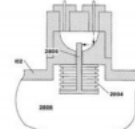
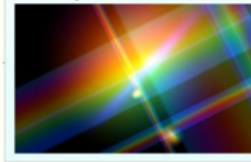


CN101661570 - HEBEI UNIVERSITY OF TECHNOLOGY - 2009
In the invention, the vacuum degree in the vacuum arc extinguish chamber can be measured in the power grid, and also the residual life can be predicted and off-line monitoring can be realized so as to avoid the reduction of reliability coefficient of a power system due to the access of on-line measurement equipment, thereby meeting the requirement of switch electrical appliance state examination, and realizing the intelligentizing of vacuum switch.

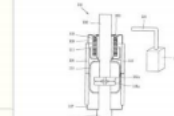


FR2964242 - AREVA, SCHNEIDER - 2010
The device has an axial magnetic field generating member (22) including a ring-shaped permanent magnet (24) to create uniform magnetic field along an axis (Z). A circuit (14) applies high voltage between electrodes (6, 8). The field cooperates with the voltage to generate magnetron discharge in the tank. A circuit measures an electric current from the discharge and determines residual pressure from the current. The magnet has parallelepiped-shaped elementary permanent magnets forming a cylindrical structure i.e. stack of elementary rings, to create a uniform magnetic field along the axis.

Optical device

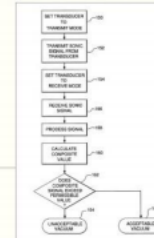


US7805248 - THOMAS & BETTS - 2004
A method for detecting a high pressure condition within a high voltage vacuum device includes detecting the position of a movable structure such as a bellows. The position at high pressures can be detected optically by the interruption of a light beam reflected by a hemispherical shaped reflector. The hemispherical reflector allows the source light fiber to be oriented parallel to the detection light fiber, providing a more compact and efficient fiber routing.



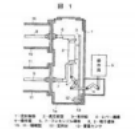
KR20100138638 - LS INDUSTRIAL SYSTEMS - 2009
A detecting pin (200) for monitoring the deterioration of the inner vacuum state of the vacuum interrupter is attached to the movable seal cup. An optical sensor (120) and a detector (130) are positioned on the upper side of the movable seal cup to measure the position variation of the detecting pin.

Acoustic device



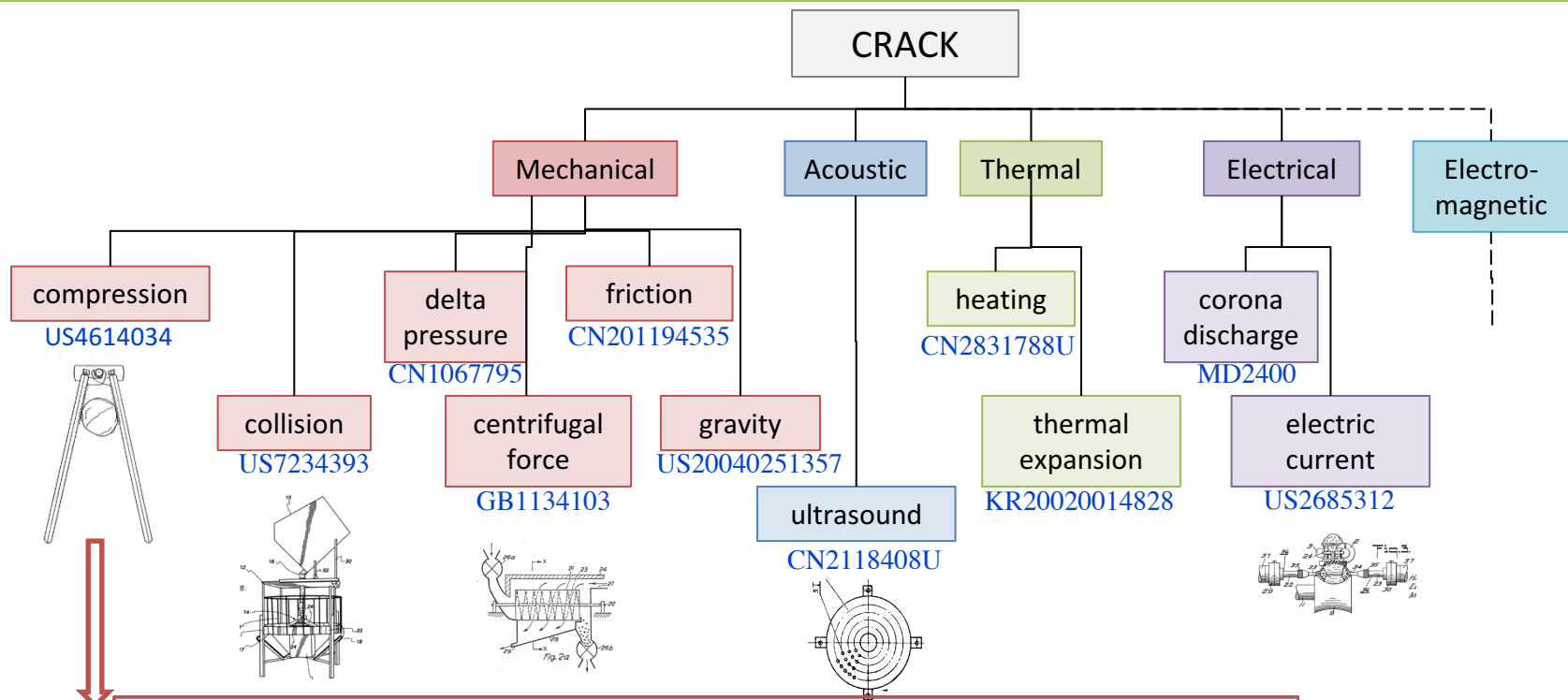
WO2005310417 - HITACHI - 2005
(APPLICATION)
The degree of vacuum monitor of the Vacuum Circuit Breaker which features that it provides the weight sensor which measures the weight of the aforementioned vacuum container in the Vacuum Circuit Breaker which is formed, it switches the degree of vacuum with the weight change of the aforementioned vacuum container.

Gravity device

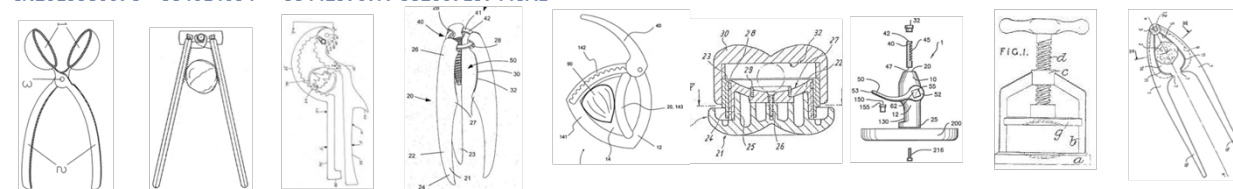


JP2005310417 - HITACHI - 2005
(APPLICATION)
The degree of vacuum monitor of the Vacuum Circuit Breaker which features that it provides the weight sensor which measures the weight of the aforementioned vacuum container in the Vacuum Circuit Breaker which is formed, it switches the degree of vacuum with the weight change of the aforementioned vacuum container.

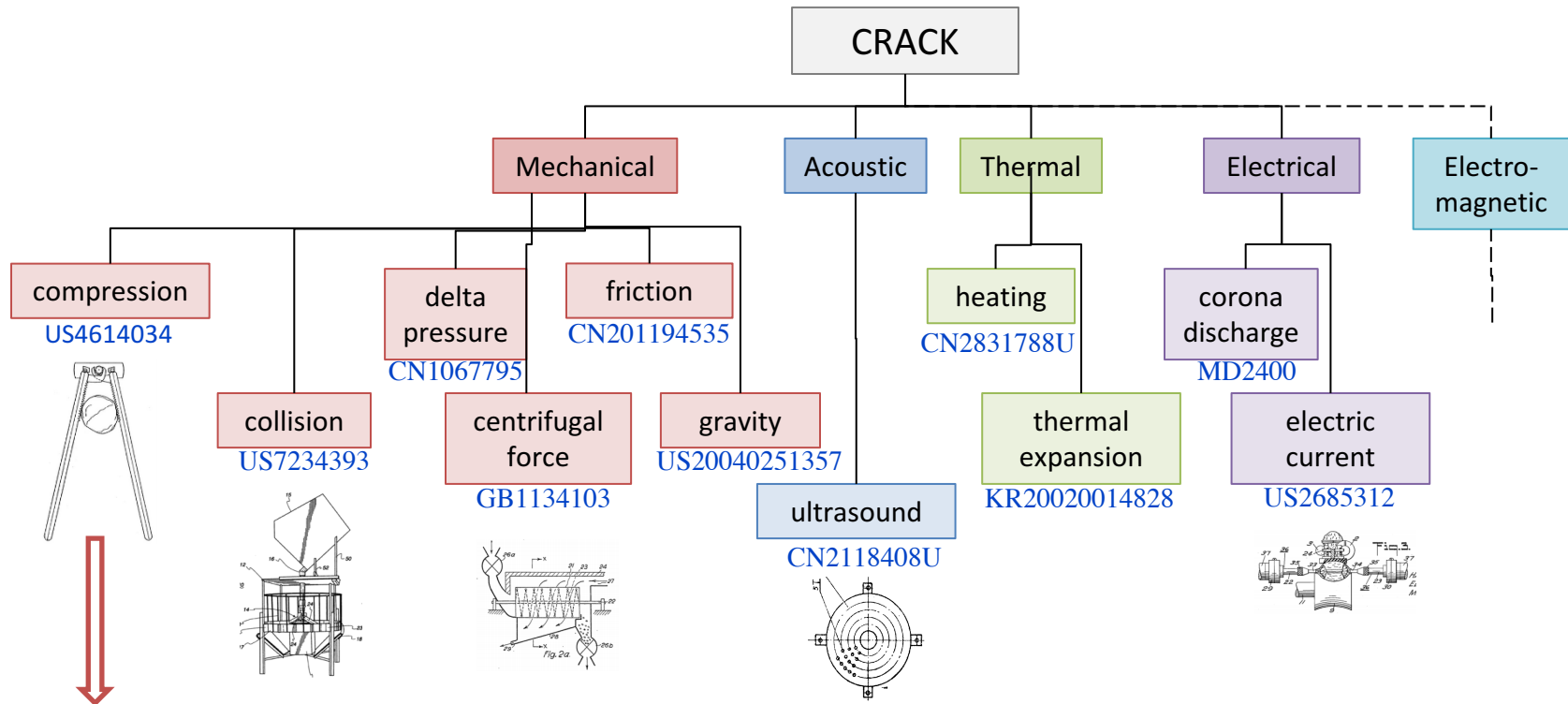
Nutcracker: State of the art of the technologies



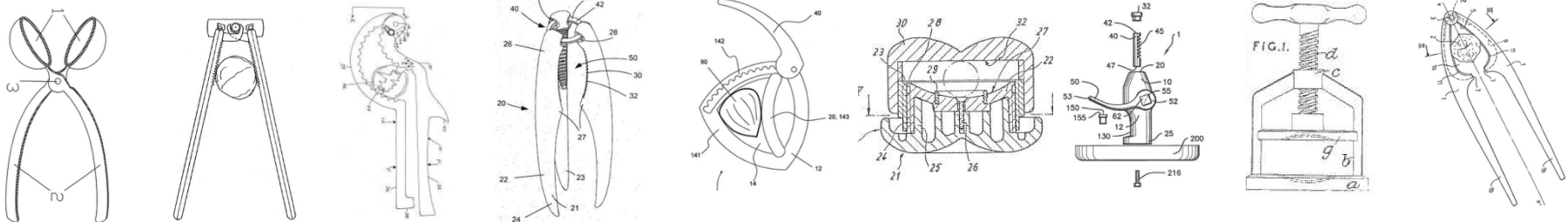
CN201558007U US4614034 US4425707A US2007137448A1 DE102008025636 DE4303776A1 US7011016B1 GB191406736A EP976355

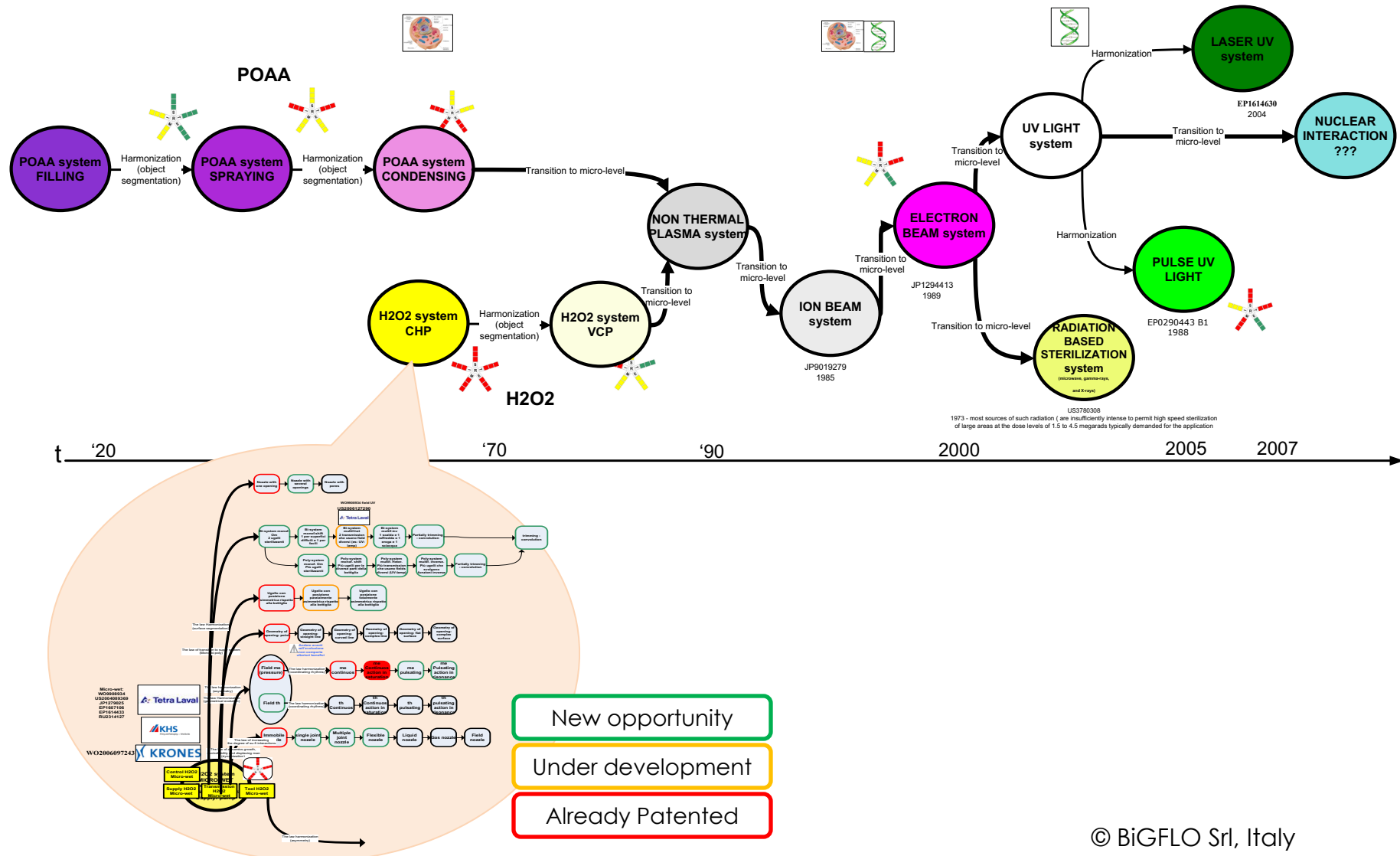


Nutcracker: State of the art of the technologies

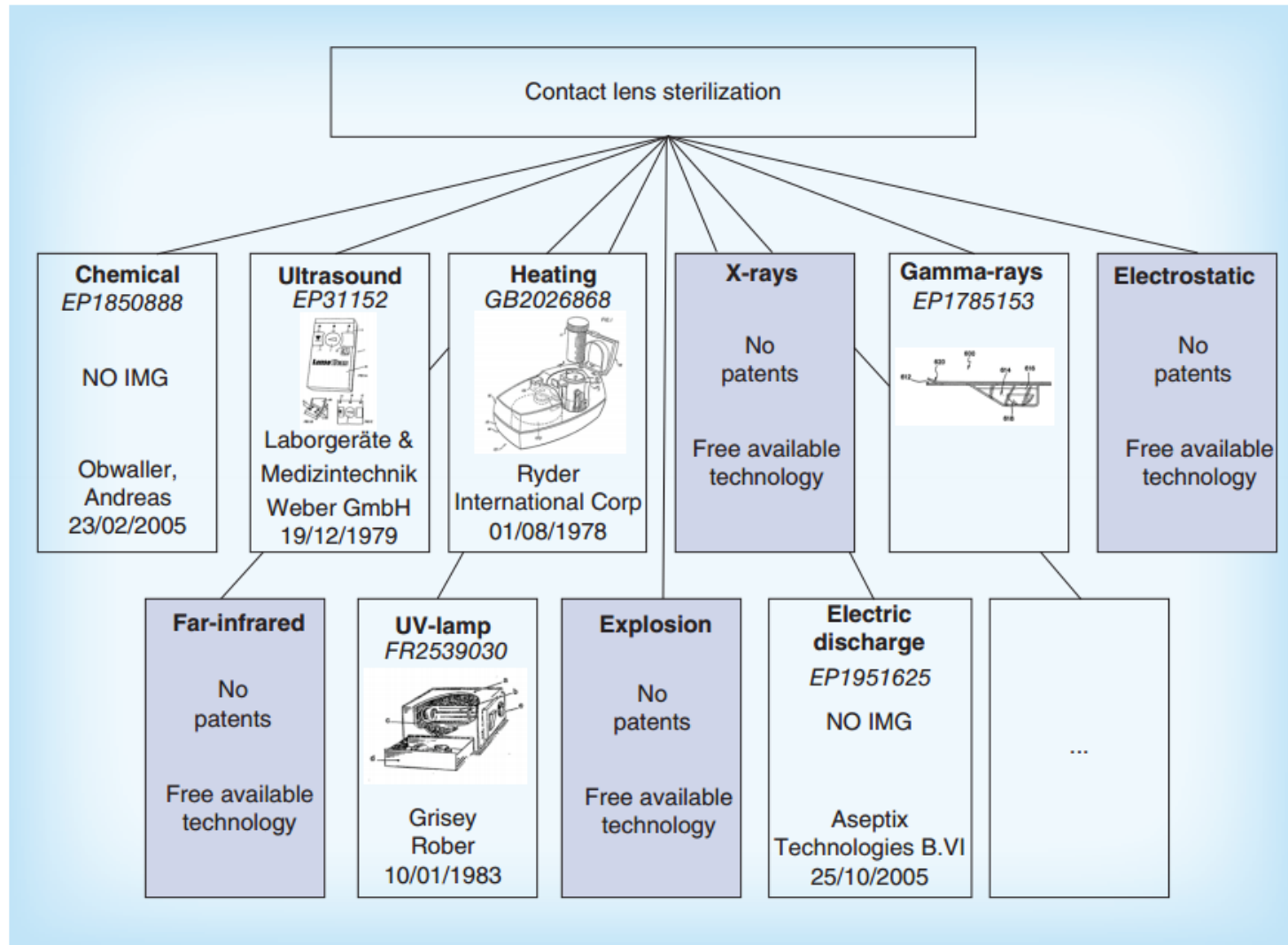


CN201558007U US4614034 US4425707A US2007137448A1 DE102008025636 DE4303776A1 US7011016B1 GB191406736A EP976355

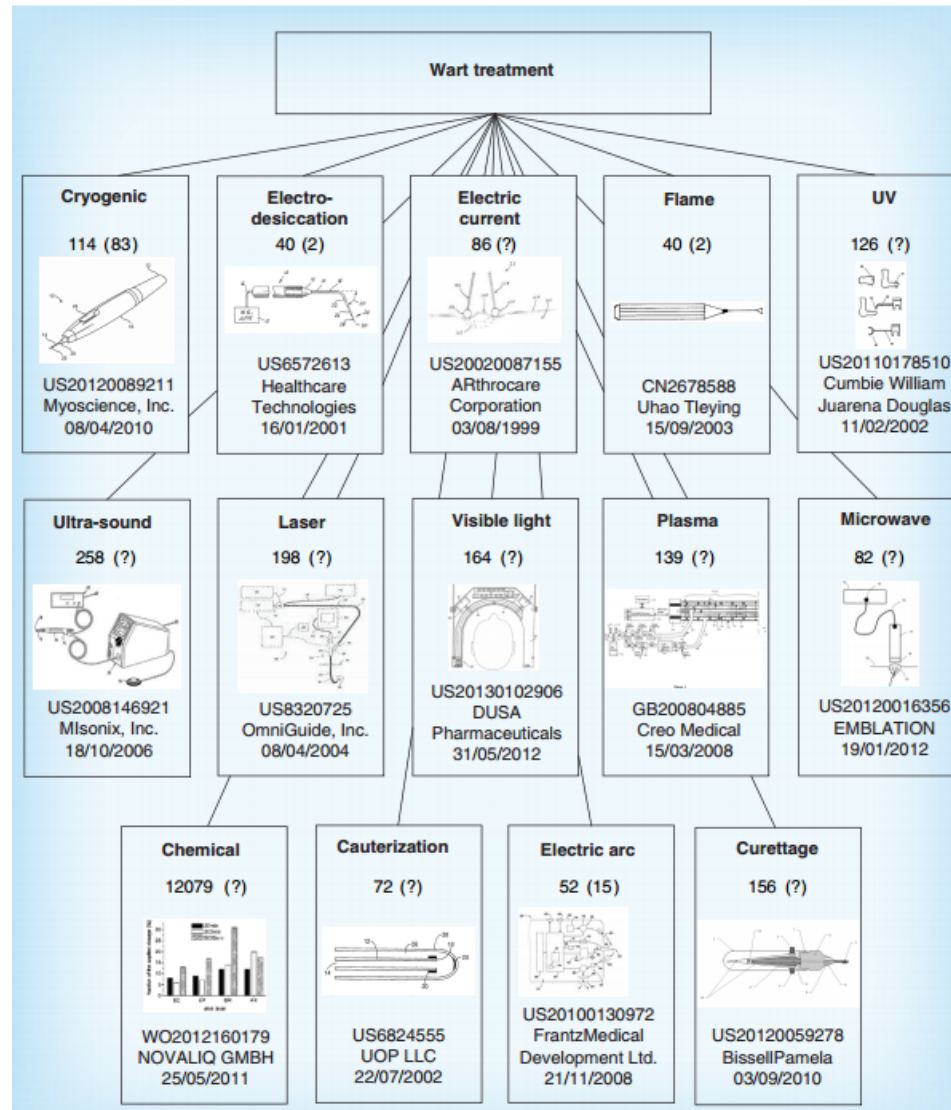




Contact Lens Sterilization: identification of new technologies

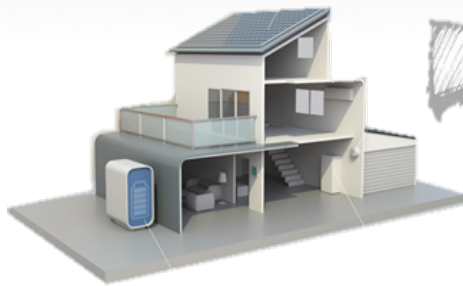


Wart Treatment: identification of existing technologies



Smart cities

Domotic home

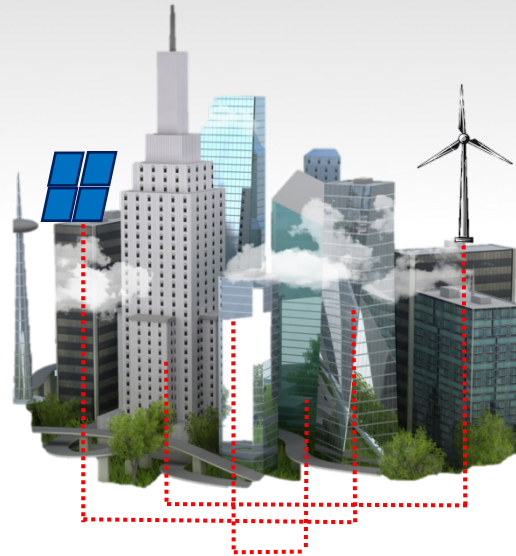


Domestic DC plant



[California polytechnic DC house project](#)

New urban DC grid



DC Grid inside the building



No results

MVDC Discharge lamps

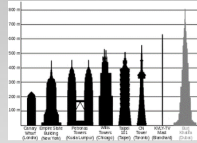
patents > 100 MVDC discharge lamps in H05B, H01J, Y10S-315

MVDC Grid between buildings

scientific publication ([Mura et al.; 2011](#))

Vertical life & work

Higher buildings with more people, services and technologies



DC Pneumatic transport



CN101767721 (2009)
"A pneumatic pipeline transmission system, method and a receiving work station"

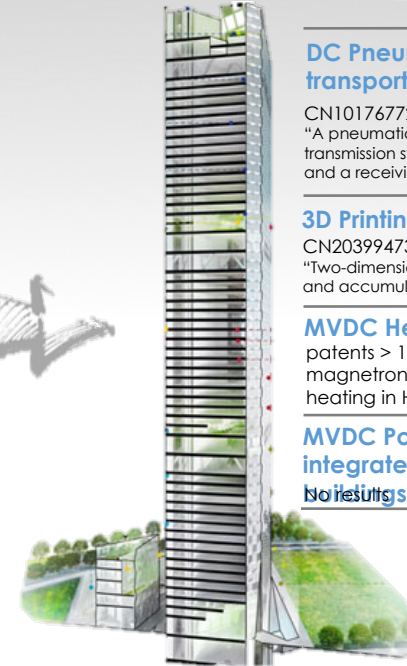
3D Printing in DC

CN203994732 (2014)
"Two-dimensional array electro-plating and accumulation 3d printer"

MVDC Heating

patents > 100 MVDC magnetron and induction heating in H05B

MVDC Power line integrated inside buildings



MVDC Data-center

scientific publication ([Noritake et al.](#))

US2014152109 (2014)
"Medium voltage uninterruptible power supply"



MVDC Power storage

Scientific publication ([Noritake et al.](#))

DC Fast elevators



MVDC Vertical farms



JP2011120537 (2009)
"Hydroponic method and plant factory"
Takeda Kiyoshi, Yasunaka Ryoichi

Future Transports

Wheels



Plug-in and full –electric cars and investments (such as SKF) for truck technologies

Propulsion

- Patents > 100 for **MVDC electric propulsion** in B60L-009 and B60L-011
- Patents > 50 **MVDC ignition** for combustion engine in F02P

Batteries

- MVDC batteries** for car (Schneider (2014) FR2990310)
- MVDC recharge system** (Electric Power Research Institute, Inc. (2013) [US 20130134935 A1](#))

Schneider Electric

On board instrumentation

MVDC refrigeration system for truck (Aura system (2013) [US2014283533](#))

Self driven cars

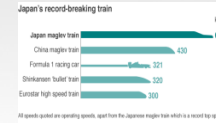
No results

Rails

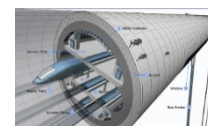


Cities will continue to expand and public transports will become faster and efficient until completely replacing cars (e.g. Helsinki)

Competition between trains and aircrafts



Diffusion of Intercontinental railways

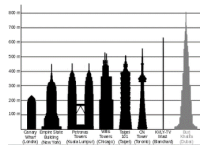


Metro & trains



- patents > 200 for **MVDC rail vehicles** in B60L
- patents > 50 for **MVDC power supply lines** for electric rail vehicles in B60M

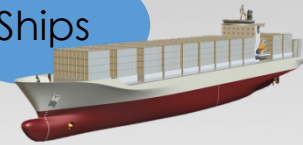
Buildings will be higher



Fast elevators



Ships



Propulsion



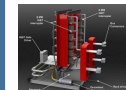
DC propulsion for ships (ABB) [link](#)

On board DC grid



Diffusion of DC grid on ships and off-shore platforms. [Bash et al. \(2009\)](#)

<http://www.mvdc.it/>



MVDC circuit breaker for ships: [Kempkes et al. \(xxxx\)](#) ; ABB (2010) [WO2010066888](#)



MVDC on board batteries [Tang \(2011\)](#)

Aircraft



Could aircraft be alimented in DC in far future?

Energy sources & distribution



Eolic

Eolic is growing: i.e. China government plans to develop **27 gigawatts** of wind power capacity in 2015

MVDC Energy production



Turbines are ACLV but auxiliary technologies start working in DC (i.e. GE motor for blade positioning [Link](#))



MVDC Distribution for Eolic

- Patents > 50 for MVDC Eolic distribution in Y02E-010/763



- Specific application for Offshore wind farm distribution

 **WOODWARD** [link](#)

- Scientific publication for HVDC inshore plants ([Thomas \(2009\)](#))



Biomasses

No results



Fuel cells

No results



Solar production

World solar PV power has reached **136,697 MW** and is continually growing (+37% in the last two years, source EPIA)

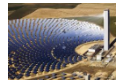
MVDC Energy Production

- Patents > 30 for MVDC solar production in H02J



- MVDC patent for Offshore PV ([Danmarks Tekniske Universitet \(2014\) WO 2014131782 A1](#))

MVDC Distribution for solar



Several applications for HVDC Thermal solar (i.e. Desertec [Link](#))



- Patents > 100 MVDC solar arrays and solar power distribution in H01L and Y02E-010/563
- Patents > 20 MVDC cabinets for solar energy generations in H02

Electric generators

- Patents > 50 MVDC electric motors or other electric motors with MVDC conversion and dynamos for power generation in H02P, H02K



Hydroelectric

MVDC Energy Production

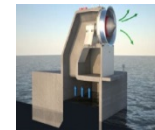


Several applications for dams (i.e. [ABB hybrid HVDC breaker](#))



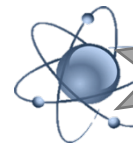
Marine hydraulic turbine

No results



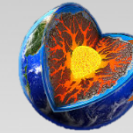
Wave + gas turbine generator

No results



Nuclear

No results



Geothermal

MVDC Distribution for geothermal

- scientific publication for HVDC inshore plants ([Rudervall et al. \(xxxx\)](#))



Battery

MVDC generation

- >100 patents for MVDC battery generation distribution in H01M and H02J-007



Thermal engines

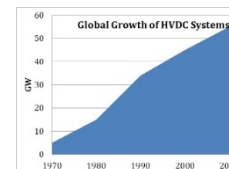
- > 30 patents for MVDC thermal production in H02P and H02K
- Scientific publication specifically for MVDC turbo gas production ([Dan \(2013\)](#))

HVDC general distribution

HVDC Supergrid

HVDC distribution and technologies are constantly growing since 1970 ([Link](#)) ([Link 2 ABB](#))

- Patents > 200 for HVDC grid in Y02E-060/60
- Patents > 20 for MVDC subsea power substations in H02B, H02J



Metal Plates: Trends of Evolution

