Search matters 2015

Search strategies in mechanics with focus on medical devices
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Examiner at the EPO since 2002
Technical field: Soft implants
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Purpose of the presentation

- Learn, how EPO examiners search in a mechanical field, for example medical devices.
- Examples are medical devices, but the shown search technique is similar for all mechanical areas.
- Learn how to efficiently use Espacenet for searches in mechanics.
Outline

1. Subject of search at the EPO
2. Overview of medical technology
3. Foundations of CPC
4. EPO search tools
5. Public search tools: Espacenet
6. Two examples of conducting a search
7. Conclusions
Subject of search at the EPO

Article 69(1) EPC
The **claims** determine the extent of protection

Article 123(1, 2) EPC
**patent application may be amended**
provided that no subject-matter may be introduced, which extends beyond the contents of the application as filed
Subject of search at the EPO

Search to be conducted on the basis of the claims with due regard to the description and drawings (Article 92 EPC)
Medical technology - what do we mean?

- Surgical methods
- Diagnostic methods
- Therapeutical methods

If practised on the body are excluded from patentability (Article 53(c) EPC)
Cooperative Patent (CPC) Classification for medical technology

A61B: DIAGNOSIS; SURGERY; IDENTIFICATION
A61C: DENTISTRY; APPARATUS OR METHODS FOR ORAL OR DENTAL HYGIENE
A61D: VETERINARY INSTRUMENTS, IMPLEMENTS, TOOLS, OR METHODS
A61F: FILTERS IMPLANTABLE INTO BLOOD VESSELS; PROSTHESES; ORTHOPAEDIC, NURSING OR CONTRACEPTIVE DEVICES; FOMENTATION; TREATMENT OR PROTECTION OF EYES OR EARS; BANDAGES, DRESSINGS OR ABSORBENT PADS; FIRST-AID KITS
A61H: PHYSICAL THERAPY APPARATUS, e.g. DEVICES FOR LOCATING OR STIMULATING REFLEX POINTS IN THE BODY; ARTIFICIAL RESPIRATION; MASSAGE; BATHING DEVICES FOR SPECIAL THERAPEUTIC OR HYGIENIC PURPOSES OR SPECIFIC PARTS OF THE BODY
A61J: CONTAINERS SPECIALLY ADAPTED FOR MEDICAL OR PHARMACEUTICAL PURPOSES; DEVICES OR METHODS SPECIALLY ADAPTED FOR BRINGING PHARMACEUTICAL PRODUCTS INTO PARTICULAR PHYSICAL OR ADMINISTERING FORMS; DEVICES FOR ADMINISTERING FOOD OR MEDICATIONS ORALLY; BABY COMFORTERS; DEVICES FOR RECEIVING SPITTLE
A61M: DEVICES FOR INTRODUCING MEDIA INTO, OR ONTO, THE BODY; DEVICES FOR TRANSDUCING BODY MEDIA OR FOR TAKING MEDIA FROM THE BODY; DEVICES FOR PRODUCING OR ENDING SLEEP OR STUPOR
A61N: ELECTROTHERAPY; MAGNETOTHERAPY; RADIATION THERAPY
Foundations of the CPC

• bases on IPC with additions by EPO and USPTO
• hierarchical
• all relevant aspects in document are classified
• deepest possible class is given
Foundations of the CPC

A61F2/00 Prostheses

A61F2/82 Devices providing patency to tubular structures of the body, e.g. stents

A61F2/848 having means for fixation to the vessel wall

A61F2002/821 Ostial stents

A61F2210/00 Material properties in groups A61F2/00 to A61F2/26 or A61F2/82
Foundations of the CPC

class titles may be misleading!

A61F2/958: balloon catheters for expanding stents
A61M25/10: general balloon catheters

A61F2/82: stents in general
A61M25/0017: urethral stents

Use class definitions!
Look in the class before using it!
Foundations of the CPC: definitions

www.cooperativepatentclassification.org

A61F2/82

Devices providing patency to, or preventing collapsing of, tubular structures of the body, e.g. stents (stent-grafts for blood vessels A61F2/07; stent-grafts for tubular structures of the body other than blood vessels A61F2/04; instruments specially adapted for placement or removal of stents or stent-grafts A61F2/95; for closing wounds, or holding wounds closed A61B17/00; dilators A61M29/00)

Definition statement

This subclassgroup covers:

Stents with tubular structures deployed within a stenosis in order to widen and support the vessel. The stent is usually made from a rigid material like metal or polymer.

Illustrative examples for classification:

<table>
<thead>
<tr>
<th>120</th>
<th>180</th>
</tr>
</thead>
<tbody>
<tr>
<td>160</td>
<td>140</td>
</tr>
</tbody>
</table>

A61F2/92 (flow (specific stent class) A61F2002/065 A61F2002/828 (means for connecting a plurality of stents))

<table>
<thead>
<tr>
<th>120</th>
<th>180</th>
</tr>
</thead>
<tbody>
<tr>
<td>160</td>
<td>140</td>
</tr>
</tbody>
</table>


Relationship between large subject matter areas

Stent Manufacturing:

<table>
<thead>
<tr>
<th>Laser cutting</th>
<th>B23K25/00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etching</td>
<td>C29F1/00</td>
</tr>
<tr>
<td>Bending sheets of metals for making tubes</td>
<td>B21D5/10</td>
</tr>
</tbody>
</table>
EPO internal tools: Available databases

EPODOC patent database

NPL database with scientific papers

BIOSIS, EMBASE, MEDLINE Specific databases for medical technology

and many others not so relevant for medical devices....
EPO internal tools: EPOQUE

search environment with 82 databases for different technical fields

[SS 1] /cci a61f2/82
Results in EPODOC 3.370

[SS 2] /cci a61f2/82/low
Results in EPODOC 25.182

[SS 3] 3ug stent, delivery, catheter
Results in EPODOC 388

[SS 4] *1 and *2
Results in EPODOC 3.370

[SS 5]
EPO internal search tools: EPOQUE fields

publication data fields:
patent numbers, application numbers, priorities, publication dates....

searchable text fields:
abstract, titles, applicants, inventors

classification search:
CPC with different flavours: invention, additional, confirmed, unconfirmed, FI, FT, IPC
EPO internal search tools: Full-text
Providing contextually relevant advertisements and e-commerce features in a personal medical device system

A medical device system includes a portable (patient-worn or patient-carried) medical device that can automatically initiate certain e-commerce and/or advertisement presentation features in response to the detection of one or more triggering events. A triggering event may, for example, be associated with the monitoring of the operation or status of the medical device, the operation or status of the medical device system, a medical condition of the patient, treatment of the patient, and/or the preferences of the patient or user. In one application, the medical device is an insulin infusion pump, and the user is automatically prompted to purchase, order, or otherwise obtain replaceable or replenishable items associated with the operation of the insulin infusion pump, such as a continuous glucose sensor, an infusion set, or an insulin reservoir.
Public search tools

Many patent search tools on the market, you know better than me.....

a typical example:
www.espacenet.com
Espacenet: Available databases

worldwide index very similar to internal EPODOC database
Espacenet: searchable fields

publication data fields:
patent numbers, application numbers, priorities, publication dates....

searchable text fields:
abstract, titles, applicants, inventors

classification search:
CPC without flavours invention, additional, confirmed unconfirmed, FI, FT, IPC

almost the same as in EPODOC
Example 1: concept of invention

CLAIM
A catheter (12, 50) for the implantation of a stent (1' ) in a tubular organ of the body, said stent having a first part acting as a stentbody (8), a second part acting as an anchoring element (10, 10', 40) and there between a connecting part (9), said catheter comprising a stent holding part (70) which is divided into a distal stentbody holding part, a proximal anchoring element holding part and there between holding means (11, 53) for releasable holding of said connecting part of the stent.
Example 1: drawing of application
Example 1: Generic search strategy

1. Select database
2. Classification search
3. Fulltext search
4. Search claims, figures, description
5. Best prior art
6. Reference hunting
Example 1: find CPC class for classification search
Example 1: find CPC class for classification search

Cooperative Patent Classification

Search for: silent delivery catheter

Search

View section Index A B C D E F G H Y

Symbol Classification and description

- A61F 2/00 Filters implantable into blood vessels; Prostheses, i.e. artificial substitutes or replacements for parts of the body; Appliances for connecting them with the body (e.g. cosmetic articles, use for relevant subclases, e.g. wires, hair pieces, A41G 3/00, A41G 5/00; artificial nails A45D 31/00; dental prostheses A61C 13/00; materials for prostheses A61L 27/00; artificial hearts A61M 17/00; artificial kidneys A61M 1/14)

- A61M 25/00 Catheters; Hollow probes; dilators A61M 29/00; (peritoneal catheters A61M 1/285; tracheal tubes A81M 13/04; for drainage A61M 27/00; for uterus, vagina or rectum A61M 31/00; for measuring or testing A61B; (materials for catheters A61L 29/00)

- A61F 223/00 Geometry of prostheses classified in groups A61F 2/00 to A61F 2/22 or A61F 9/00 or A61F 11/00 or subgroups thereof

- A61F 222/00 Fixations or connections for prostheses classified in groups A61F 2/00 to A61F 2/22 or A61F 9/00 or A61F 11/00 or subgroups thereof

- Y10T 29/00 Metal working

- A61B 17/00 Surgical instruments, devices or methods, e.g. tourniquets (A61B 18/00 takes precedence; contraceptive devices, pessaries, or applicators therefor A61F 6/00; eye surgery A61F 9/007; ear surgery A61F 11/00)
Example 1: find CPC class for classification search

Cooperative Patent Classification

Search for: [leak delivery catheter]

Symbol | Classification and description
--- | ---
A61F 2/00 | Filters implantable into blood vessels; Prostheses, i.e. artificial substitutes or replacements for parts of the body; Appliances for connecting them with the body (as cosmetic articles, see the relevant subclasses, e.g. wigs, hair pieces, A41G 3/00, A41G 5/00, artificial nails A45D 31/00; dental prostheses A61C 13/00; artificial hearts A61M 1/10; artificial kidneys A61M 1/14)
A61F 2250/00 | Special features of prostheses classified in groups A61F 2/00 to A61F 2/26 or A61F 2/82 or A61F 9/00 or A61F 11/00 or subgroups thereof
A61M 25/00 | Catheters; Hollow probes (dilators A61M 23/00; perforation catheters A61M 1/295; tracheal tubes A61M 16/04; for drainage A61M 27/00; for uterus, vagina or rectum A61M 31/00; for measuring or testing A61B; materials for catheters A61L 29/00)
A61F 2230/00 | Geometry of prostheses classified in groups A61F 2/00 to A61F 2/26 or A61F 2/82 or A61F 9/00 or A61F 11/00 or subgroups thereof
A61F 2220/00 | Fixations or connections for prostheses classified in groups A61F 2/00 to A61F 2/26 or A61F 2/82 or A61F 9/00 or A61F 11/00 or subgroups thereof
Y10T 28/00 | Metal working
A61B 17/00 | Surgical instruments, devices or methods, e.g. tourniquets (A61B 17/00 takes precedence; contraceptive devices, pessaries, or applications therefor A61F 8/00; eye surgery A61F 9/00; ear surgery A61F 11/00)
Example 1: find CPC class for classification search

definitions for A61F

definitions for A61F2/00
Example 1: find CPC class for classification search

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Classification and description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A61F</td>
<td>FILTERS IMPLANTABLE INTO BLOOD VESSELS; PROSTHESES; ORTHOPAEDIC, NURSING OR CONTRACEPTIVE DEVICES; FOMENTATION; TREATMENT OR PROTECTION OF EYES OR EARS; BANDAGES, DRESSINGS OR ABSORBENT PADS; FIRST-AID KITS (dental prosthetics: A61G)</td>
</tr>
</tbody>
</table>

Filters; Devices providing patency to tubular structures; Prostheses; Accessories

A61F 2/00

Filters implantable into blood vessels; Prostheses, i.e. artificial substitutes or replacements for parts of the body; Appliances for connecting them with the body (as cosmetic articles, see the relevant subclasses, e.g. wigs, hair pieces. A41G 3/00, A41G 5/00, artificial nails A45D 31/00; dental prostheses A61C 13/00; materials for prostheses A61L 27/00; artificial hearts A61M 1/10; artificial kidneys A61M 1/14)

Definitions

References relevant to classification in this group

This subclass group does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cosmetic articles, e.g. wigs, hair pieces</td>
<td>A41G3/00, A41G5/00</td>
</tr>
<tr>
<td>Artificial nails</td>
<td>A45D31/00</td>
</tr>
<tr>
<td>Dental prostheses</td>
<td>A61C13/00</td>
</tr>
<tr>
<td>Materials for prostheses</td>
<td>A61L27/00</td>
</tr>
<tr>
<td>Artificial hearts</td>
<td>A61M1/10</td>
</tr>
<tr>
<td>Artificial kidneys</td>
<td>A61M1/14</td>
</tr>
</tbody>
</table>

Special rules of classification within this group

The “subdivision” Indexing Code symbols (i.e. the non “parallel” Indexing Code symbols) are used for classifying as well the Invention Information as the additional information. They are stored only in the additional information field

The “orthogonal” Indexing Code symbols are also used.

Prostheses classified in groups A61F2/00 to A61F2/28 or A61F2/82 or A61F3/00 or A61F11/00 or subgroups thereof:

A61F221/00 Particular material properties

A61F222/00 Fixations or connections
Example 1: find CPC class for classification search

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Classification and description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A61F 2/958</td>
<td>******* connected peak to peak</td>
</tr>
<tr>
<td>A61F 2/956</td>
<td>............ connected trough to trough</td>
</tr>
<tr>
<td>A61F 2/957</td>
<td>............ connected peak to trough</td>
</tr>
<tr>
<td>A61F 2002/91583</td>
<td>............ by a bridge, whereby at least one of its ends is connected along the length of a strut between two consecutive apices within a band</td>
</tr>
<tr>
<td>A61F 2002/91591</td>
<td>Locking connectors, e.g. using male-female connections</td>
</tr>
<tr>
<td>A61F 2/93</td>
<td>Stents in the form of a rolled-up sheet expanding after insertion into the vessel, (e.g. with a spiral shape in cross-section)</td>
</tr>
<tr>
<td>A61F 2/94</td>
<td>............ circumferentially expandable by using ratcheting locks</td>
</tr>
<tr>
<td>A61F 2/945</td>
<td>Stents retaining their form, i.e. not being deformable, after placement in the predetermined place</td>
</tr>
<tr>
<td>A61F 2/95</td>
<td>............ hardenable, e.g. stents formed in situ</td>
</tr>
<tr>
<td>A61F 2/950</td>
<td>Instruments specially adapted for placement or removal of stents or stent-grafts</td>
</tr>
<tr>
<td>A61F 2002/9511</td>
<td>****** having retaining means other than an outer sleeve, e.g. male-female connector between stent and instrument</td>
</tr>
<tr>
<td>A61F 2002/9517</td>
<td>.......... the retaining means being filaments or wires</td>
</tr>
<tr>
<td>A61F 2002/9522</td>
<td>.......... handle assemblies thereof</td>
</tr>
<tr>
<td>A61F 2002/9528</td>
<td>.......... Means for mounting a stent onto the placement instrument</td>
</tr>
<tr>
<td>A61F 2002/9534</td>
<td>.......... for retrieval of stents</td>
</tr>
<tr>
<td>A61F 2002/9538</td>
<td>.......... for repositioning of stents</td>
</tr>
<tr>
<td>A61F 2002/9554</td>
<td>.......... for placing stents or stent-grafts in a bifurcation</td>
</tr>
<tr>
<td>A61F 2002/9558</td>
<td>.......... inflatable balloons for placing stents or stent-grafts</td>
</tr>
<tr>
<td>A61F 2002/9563</td>
<td>.......... Means for holding the stent on the balloon, e.g. using protrusions, adhesives or an outer sleeve</td>
</tr>
<tr>
<td>A61F 2002/9586</td>
<td>.......... the means being inside the balloon</td>
</tr>
<tr>
<td>A61F 2/962</td>
<td>****** having an outer sleeve</td>
</tr>
<tr>
<td>A61F 2/966</td>
<td>.......... with relative longitudinal movement between outer sleeve and prosthesis.</td>
</tr>
</tbody>
</table>
Example 1: find CPC class for classification search

far too many results!
Example 1: find CPC class for classification search

Look for a better class!
Example 1: find CPC class for classification search

still too many results!
Example 1: search sieve

search criteria

results
Example 1: find CPC class for classification search

- A61F 2210/00
  - Particular material properties of prostheses classified in groups A61F 2/00 to A61F 2/26 or A61F 2/82 or A61F9 or A61F11 or subgroups thereof

- A61F 2210/0014
  - using shape memory or superelastic materials, e.g. nitinol

- A61F 2002/95
  - Instruments specially adapted for placement or removal of stents or stent-grafts

- A61F 2002/9605
  - having retaining means other than an outer sleeve, e.g. male-female connector between stent and instrument

- A61F 2002/9511
  - the retaining means being filaments or wires

- A61F 2/82
  - Devices providing patency to, or preventing collapsing of, tubular structures of the body, e.g. stents (stent-grafts for tubular structures of the body other than blood vessels A61F 2/04; stent-grafts for blood vessels A61F 2/07; instruments specially adapted for placement or removal of stents or stent-grafts A61F 2/95 for closing wounds, or holding wounds closed A61B 17/03; dilators A61M 29/00)

- A61F 2/86
  - Stents in a form characterised by the wire-like elements, Stents in the form characterised by a net-like or mesh-like structure

- A61F 2/88
  - the wire-like elements formed as helical or spiral coils (forming a net-like or mesh-like structure A61F 2/90)

- A61F 2/885
  - (comprising a coil including a plurality of spiral or helical sections with alternate directions around a central axis)
Example 1: classification search

Cooperative Patent Classification

Search for: stent delivery catheter

Symbol | Classification and description
---|---
A | HUMAN NECESSITIES
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 ([KRAGS] AND DIGESTS
Example 1: classification search

very good!
Example 1: classification search

Bibliographic data: US5246445 (A) — 1993-09-21

Device for the treatment of constricted ducts in human bodies

Abstract of US5246445 (A)

Translate this text into...
Example 1: classification search
Example 1: first set of results

Example 1: reference hunting

no cited or citing documents for US publications

<table>
<thead>
<tr>
<th>Page bookmark</th>
<th>US2006149359 (A1) - Stent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventor(s)</td>
<td>RICHTER JACOB [IL], PINCHASIK GREGORY [IL]</td>
</tr>
<tr>
<td>Applicant(s)</td>
<td></td>
</tr>
<tr>
<td>Classification</td>
<td>- international: A61F2/06; A61F2/82; A61F2/84; A61F2/88; B21F3/00; B21F3/02; B21F3/04; A61F2/00</td>
</tr>
<tr>
<td></td>
<td>- cooperative: A61F2/88; A61F2/885; A61F2/95; B21F3/00; B21F3/02; B21F3/04; B21F45/008; A61F2002/9505; A61F2002/9511; A61F2210/0033; A61F2250/0039</td>
</tr>
<tr>
<td>Application number</td>
<td>US20060360768 20060224</td>
</tr>
<tr>
<td>Priority number(s):</td>
<td>US19930029493 19930311; US20060360768 20060224; US19960679606 19960711; US19940297275 19940826; US20030618182 20030711; US20000519163 20000306; US19990361704 19990727</td>
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<tr>
<td>Also published as:</td>
<td>WO9420044 (A1) US2004098102 (A1) US7033386 (B2) US6966881 (B1) US6514285 (B1) → more</td>
</tr>
</tbody>
</table>
Example 1: reference hunting

Also published as:

- WO9420044 (A1)
- US2004096102 (A1)
- US7033388 (B2)
- US6666981 (B1)
- US6514265 (B1)
- US2003114916 (A1)
- US6692521 (B2)
- SG5662 (A1)
- SG69973 (A1)
- PT703761 (E)
- KR100217343 (B1)
- JP2004065954 (A)
- JP2002224225 (A)
- JPH08511437 (A)
- JP20000116792 (A)
- EP0703761 (A1)
- EP0703761 (A4)
- EP0703761 (B1)
- EP1378211 (A1)
- EP1378211 (B1)
- EP1378210 (A1)
- EP1378210 (B1)
- EP1163890 (A2)
- EP1163890 (A3)
- EP1163890 (B1)
- DK0703761 (T3)
- DE69434886 (T2)
- DE69434509 (T2)
- DE69434453 (T2)
- DE69432145 (T2)
- CA2157936 (A1)
- BR9405969 (A)
- AU694420 (B2)
- AT232702 (T)
- AT306230 (T)
- AT345750 (T)
- AT301441 (T) → less

look at European A1/A3 publications
Example 1: reference hunting

Bibliographic data: EP0703761 (A1) — 1996-04-03

Page bookmark: EP0703761 (A1) - STENT

Inventor(s): PINCHASI GREGORY [IL]  
Applicant(s): MEDINOL LTD [IL], FRIEDMAN MARK M [IL]

Classification:  
- international: A61F2/06; A61F2/82; A61F2/84; A61F2/88; B21F3/00; B21F3/02; B21F3/04; A61F2/00; (IPC1-7): A61F2/06
- cooperative: A61F2/88; A61F2/885; A61F2/95; B21F3/00; B21F3/02; B21F3/04; B21F45/008; A61F2002/9505; A61F2002/9511; A61F2210/0033; A61F2250/0039
Example 1: when to stop a search

- search sieve (start with many search criteria, then broaden your search)
- reference hunting in good documents
- good documents might have better classes

but

complete search = all documents in relevant class
Example 1: best results after full search

published as WO2007048437
Example 2

An application device for applying a dispensable material, the application device (10) having a closed state and an open state and comprising:
- an elastic part (46) made of an elastic material and having a through channel (48) being configured for engaging a cavity (15) of a receptacle (12);
- a holder (26) comprising a support (28) for receiving a dispensing means (32) fluidly connected with said through channel (48);
characterized by- a pinch seal (52) sealing said through channel (48) when being in said closed state.
Example 2 - CPC class

<table>
<thead>
<tr>
<th>CPC Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>HUMAN NECESSITIES</td>
</tr>
<tr>
<td></td>
<td>Health; amusement</td>
</tr>
<tr>
<td>A61</td>
<td>MEDICAL OR VETERINARY SCIENCE; HYGIENE</td>
</tr>
<tr>
<td>A61M</td>
<td>DEVICES FOR INTRODUCING MEDIA INTO, OR ONTO, THE BODY (introducing media into or onto the bodies of animals A61D 7/00; means for inserting tampons A61F 13/26; devices for administering food or medicines orally A61J; containers for collecting, storing or administering blood or medical fluids A61J 1/05); DEVICES FOR TRANSDUCING BODY MEDIA OR FOR TAKING MEDIA FROM THE BODY (surgery A61B; chemical aspects of surgical articles A61L); DEVICES FOR PRODUCING OR ENDING SLEEP OR STUPOR</td>
</tr>
<tr>
<td>A61M 5/00</td>
<td>Devices for bringing media into the body in a subcutaneous, intra-vascular or intramuscular way; Accessories therefor, e.g. filling or cleaning devices, arm-rests (vaccination appliances for veterinary use A61D 1/025); tube connectors, tube couplings, valves or branch units specially adapted for medical use A61M 39/00; containers specially adapted for medical or pharmaceutical purposes A61J 1/00; (combinations of vial and syringe for mixing or transferring their contents A61J 1/00M; holders for containers for collecting, storing or administering blood or medical fluids A61J 1/16))</td>
</tr>
<tr>
<td>A61M 5/178</td>
<td>Syringes</td>
</tr>
<tr>
<td>A61M 5/31</td>
<td>Details</td>
</tr>
<tr>
<td>A61M 5/32</td>
<td>Needles; Details of needles pertaining to their connection with syringe or hub (infusion needles A61M 5/158); Accessories for bringing the needle into, or holding the needle on, the body (A61M 5/42, 5/46 take precedence; guide needles for catheters A61M 25/065)); Devices for protection of needles (apparatus specially adapted for cleaning or sterilising needles A61M 5/001))</td>
</tr>
<tr>
<td>A61M 5/3202</td>
<td>(Devices for protection of the needle before use, e.g. caps) (A61M 5/50 takes precedence; for infusion spikes A61M 5/1626, protectors for sharps A61B 19/0262))</td>
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Example 2: classification search

Select the collection you want to search in

Worldwide - collection of published applications from 90+ countries

Enter one or more classification symbols

Cooperative Patent Classification (CPC): a61m5/3202

International Patent Classification (IPC): H03M1/12
Example 2: classification search

| Result list | Select all | Compact | Export (CSV | XLS) | Download covers (0) | Print |
|-------------|------------|---------|-----------|---------------------|--------|

Approximately **6,555** results found in the Worldwide database for: **a61m5/3202** as the Cooperative Patent Classification. Only the first **600** results are displayed.

Results are sorted by date of upload in database

**1. INJECTION DEVICE**

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**2. PREFILLED RETRACTABLE SYRINGE, PLUNGER AND NEEDLE ASSEMBLY THEREFOR**

| Inventor: | | Applicant: | | CPC: | IPC: | Publication info: | Priority date: |
|-----------| |------------| |------|------|--------------------|----------------|
|           | |            | | A61M2005/3323 | A61M5/315 |                    |                |
|           | |            | | ![A61M5/3231](image) | ![A61M5/3231](image) |                    |                | (+8)            |
|           | |            | | A61M2005/3231 | A61M5/32 |                    |                | (+1)            |
|           | |            | | A61M2005/3231 | A61M5/32 |                    |                |                  |

Too many results?
Example 2: full-text search

Select the collection you want to search in
Worldwide - collection of published applications from 90+ countries

Enter keywords in English
Title: plastic and bicycle
Title or abstract: hair
(pinch* or seal*) and (outlet or needle)

Enter one or more classification symbols
Cooperative Patent Classification (CPC):
a51m5/3202

International Patent Classification (IPC): H03M1/12

Keywords:
(pinch* or seal*) and (outlet or needle)
Example 2: fulltext search

More reasonable?

1. Tamper Evident Vacuum Tube Holder Assembly and Needle Hub Assembly Therefor
   - Inventor: CARR IAN [US], SCHLERF CHRISTIAN [US] (+3)
   - Applicant: SMITHTS MEDICAL ASD INC [US], CARR IAN [US] (+4)
   - IPC: A61B5/15, A61M5/32, B23P11/00 (+1)
   - Publication info: US2013042458 (A1), 2013-02-21
   - Priority date: 2003-04-22

2. SYRINGE WITH INTEGRATED NEEDLE
   - Inventor: FELTS JOHN T [US], GIRAUD JEAN-PIERRE [FR]
   - Applicant: CV HOLDINGS LLC [US]
   - IPC: A61M5/34, B05D5/08, B05D7/02 (+1)
   - Publication info: CA2803613 (A1), 2012-01-05
   - Priority date: 2010-06-29
Example 2: search results

Best document found with fulltext search

WO 03/100424 (figs. 3-4)
Example 2: best search result

browse through whole class A61M5/3202

WO 2005/039669 (figs. 12-13)

original application published as WO2009012934
Conclusions

- Make a graphical image of your subject and look at the figures in the prior art.
- Searches in mechanics are based on classification.
- Use classification, but use it with care.
- Use full-text, but do not rely on the results.
- Use the search sieve: Many search criteria at the start of a search, then broaden the search.
- Use reference hunting.
- See as many documents of the relevant class as your time constraints permit.