

The patenting process: from lab to law

Juan Arias
Founding & Managing Partner ABG
European Patent Attorney
Spanish Patent & Trademark Agent



Virginia Gómez
Patent Adviser ABG
European Patent Attorney
Spanish Patent & Trademark Agent

ABG Intellectual Property

Caring for Ideas



Protecting Innovation



Our History

ABG Patentes

is founded
by three experienced
patent attorneys,
importing a new
model of IP firm into
Spain



First **Managing IP Award**
for Patent prosecution in Spain.
Rated "Highly recommended" in
the "Prosecution Firm" category
at **IAM Patent 1000**

IAM and **WTR**
The Global IP Awards

Named Spanish "Patent
Prosecution Firm of the Year " in
2020 and 2022 at **The Global IP
Awards** organized by **IAM** and
WTR



Legal & Litigation Department
ABG Intellectual Property

2003

2004

Engineering
& Physics

2006

Trademarks

2007

**Barcelona
Office**

2011

2015

**Bilbao
Office**

2018

2019

Only Spanish IP firm ranked
by **Financial Times** as
"Europe's Leading Patent Law
Firms"

2022

abg **20** years
Intellectual
Property





We believe our **Success**
stems from our commitment to
quality

Our greatest asset is our team

ABG IP team combines excellent academic qualifications, extensive technical and legal knowledge, and industry experience.

2023

70 professionals:

- 19 PhDs in diverse areas of technology
- 19 Qualified European Patent Attorneys
- 8 Spanish Patent & Trademarks Agents
- 5 Attorneys-at-Law
- 2 UPC Representatives
- 2 former EPO examiners
- 1 former EUIPO examiner
- 1 Registered Technology Transfer Professional

Qualified representatives before:

- OEPM Spanish Patent and Trademark Office
- EPO European Patent Office
- WIPO World Intellectual Property Organization
- EUIPO European Union Intellectual Property Office
- CVPO Community Plant Variety Office
- UPC Unified Patent Court
- Courts Spain and European Union
- Customs Spain and European Union

Our clients

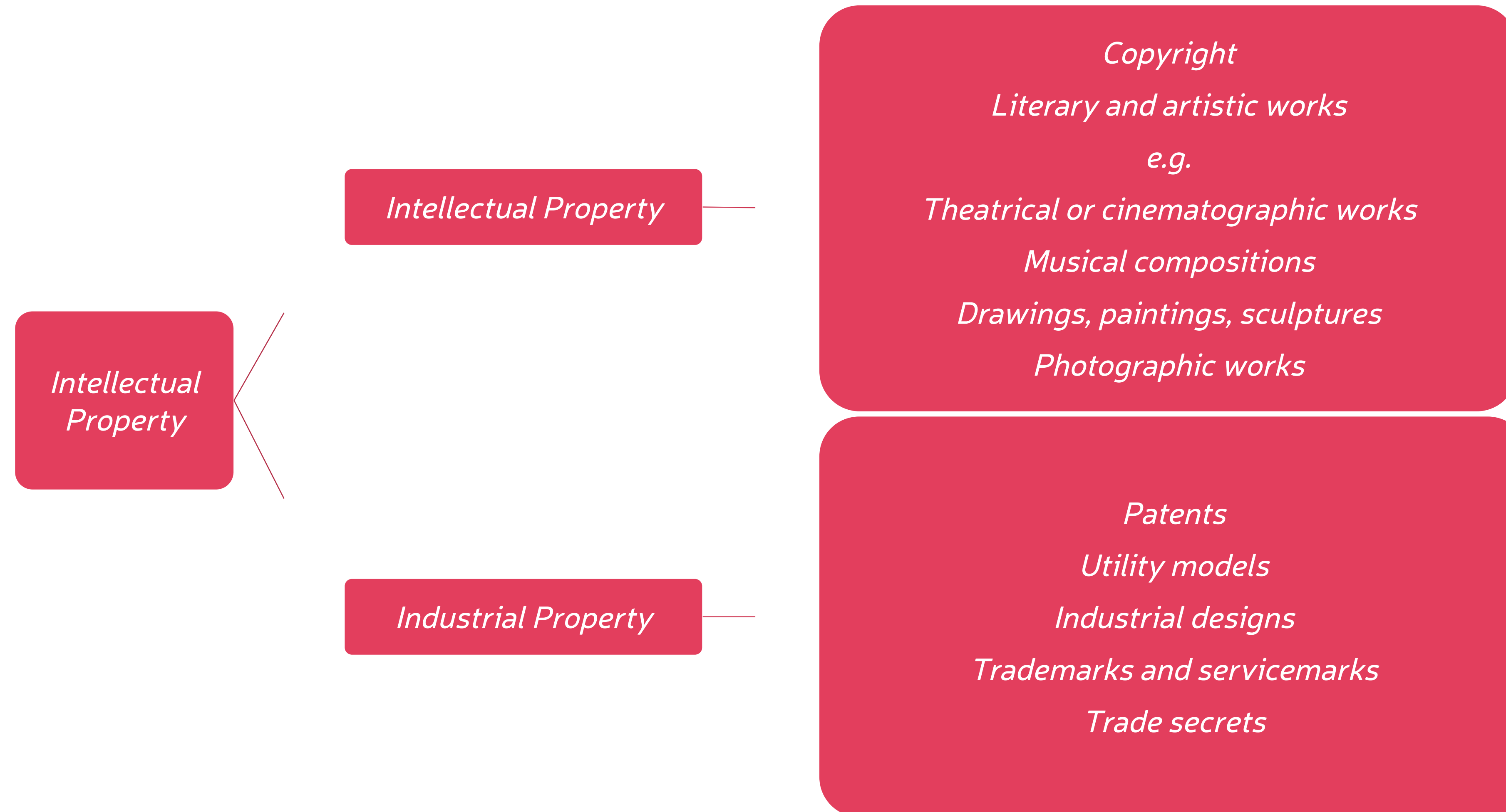
We are committed to deepen our relationship with clients, understanding their **challenges** and objectives, anticipating their needs, and coming up with **solutions to problems** they are facing.



I N D E X

- 1. Introduction to IP: Industrial and Intellectual property**
2. Patents and Utility models
3. The Patent system:
 - The Invention Disclosure document
 - The Patent document
 - Patent chronology
 - Patentability requirements

Introduction to IP: Industrial and Intellectual property



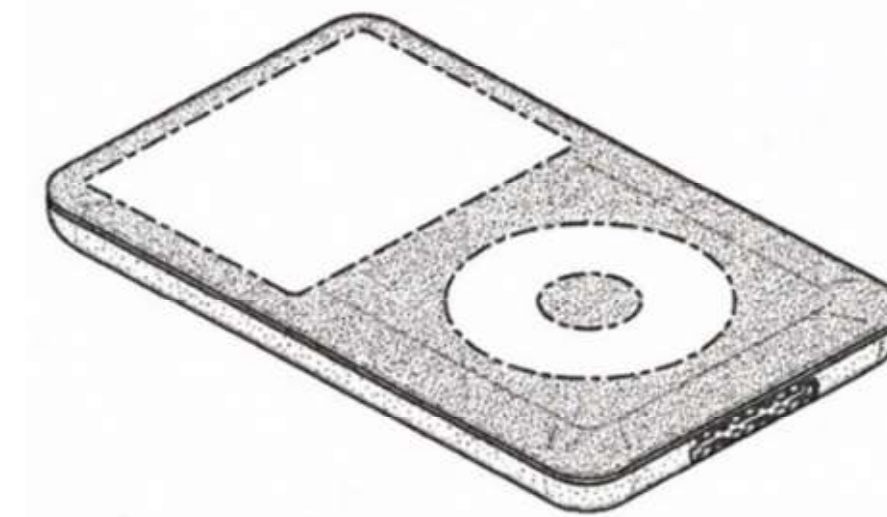
Industrial designs: some examples



Automobile
Tesla Model 3



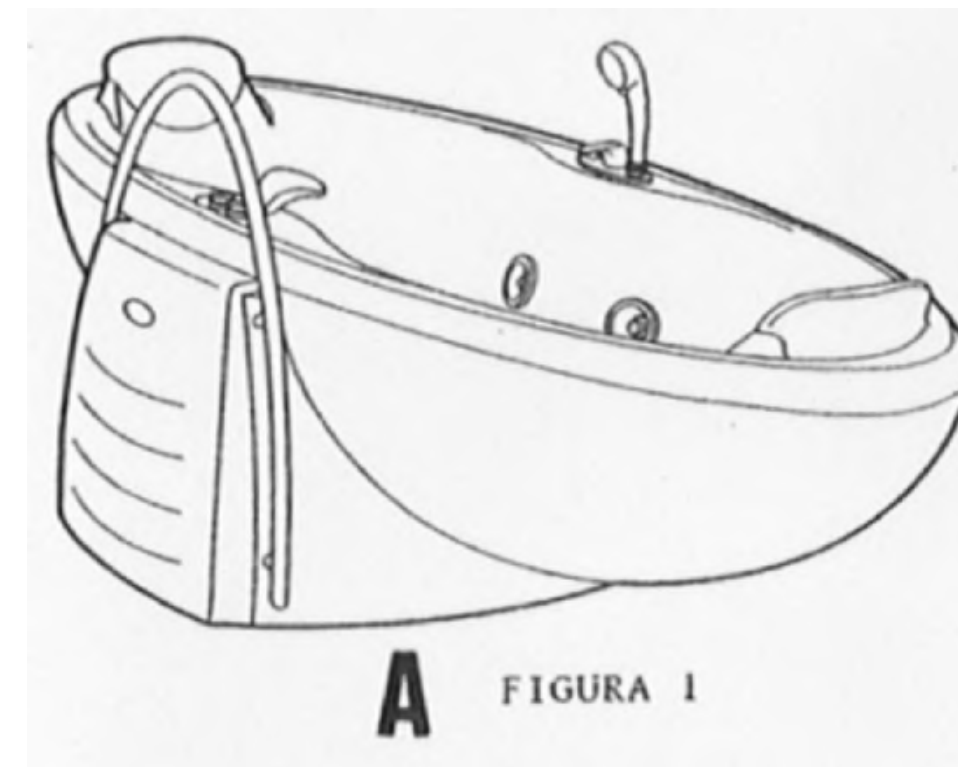
Watch
Omega SA .



Electronic Device
Apple Inc.



Bottle
Henkel, AG

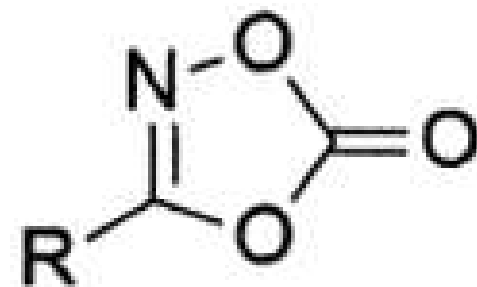


Hydromassage
Jacuzzi Europe SPA .

Trademarks: some examples



Patents: some examples



Liquid Electrolyte

Tesla's "million mile" battery

WO 2019241869 A1



PCMs

BioPCM series

(Phase Change Energy Solutions)

US 9850415 B2



Solar receiver

Gemasolar

EP 2556429 B1



Solid Electrolyte

BlueCar

FR 3071360 B1

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3. The Patent system:
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What *is* a Patent?

A **patent** is a set of exclusive rights granted by a state (administration of the state) to an inventor or their assignee for a limited period of time in exchange for the public disclosure of an invention.

Exclusive right:

- Does not include the right to exploit the invention; just to prevent third parties from exploiting the patent holder's work without permission
- Limited to the state granting the right
- Temporary right: 20 (+5) years from filing date

What *is* a Patent?

The basic principle of the patent system:

QUID PRO QUO

- ❖ i.e. to receive something in exchange for another thing
 - ✓ Protection/monopoly for 20/25 years in exchange for
 - Disclosure to the public
 - Fulfilment of requirements: novelty, inventive step
- ❖ Incentivation of technological and social development

What is a Patent?

Article 52 European Patent Convention (EPC):

*“European patents shall be granted for any inventions provided that they are **new** [and] involve an **inventive step**”*

- ✓ New: novelty requirement
- ✓ Non-obvious: inventive step requirement

PATENT - UTILITY MODEL

	PATENT	UTILITY MODEL
DURATION	20 YEARS	10 YEARS
SUBSTANTIVE EXAMINATION	YES	NO (UNLESS OPPOSITION IS FILED)
INVENTIVE STEP	REQUIRED	YES, BUT LESS STRICT THAN FOR A PATENT
TIME TO GRANT	AT LEAST 2 YEARS	LESS THAN ONE YEAR
INVENTIONS		SOME ARE EXCLUDED

IN SPAIN

UTILITY MODEL:

Inventions are **excluded** from utility models:

- processes,
- inventions aimed at biological matter, and
- pharmaceutical substances and compositions intended for use as a medicament in human or veterinary medicine.



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Where it all starts

Unexpected experimental results

- ❖ Usually result of hard-worked R&D Project
- ❖ However, results encountered by chance are also unexpected and therefore patentable – keep your eyes open!



Inventions discovered by chance

PENICILLIN



While studying staphylococcus, Alexander Fleming added some of the bacteria to petri dishes before leaving for a vacation. Although he had expected the bacteria to grow, upon returning he was surprised to find a mold growing in the dishes instead. After a close inspection he found that the mold released a byproduct which inhibited the growth of the staph.

Invention Disclosure



An invention disclosure is a **confidential** document written by the inventor (i.e. the scientist or engineer) where he/she explains the unexpected experimental results.

This document can then be used by:

- ❖ The Company direction to determine whether there is strategic interest in the technology and therefore in patenting; and/or
- ❖ The patent attorney to study whether there appears to be patentable matter based on inventor's indications.

Invention Disclosure: basic information

A good invention disclosure should:

01

Identify the unexpected results

Boroxin electrolyte provides high output at low temperatures

02

Indicate prior art documents

Electrolytes of the same chemical class (e.g. boroxins)

03

Explain why the results are unexpected

Boroxins known perform poorly at low temperatures

04

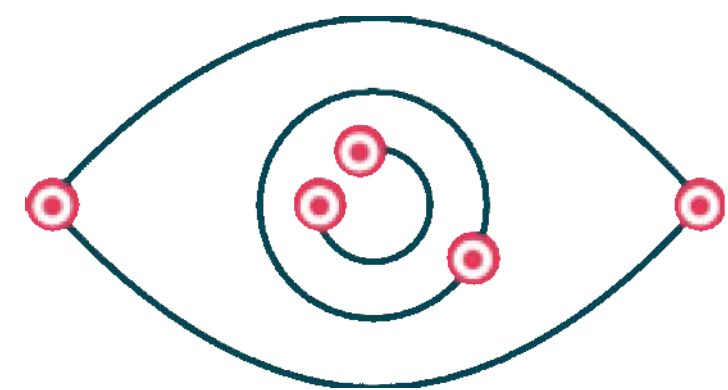
Describe at least one experiment

Measurement of battery power at -30°C when using new electrolyte vs prior art electrolytes

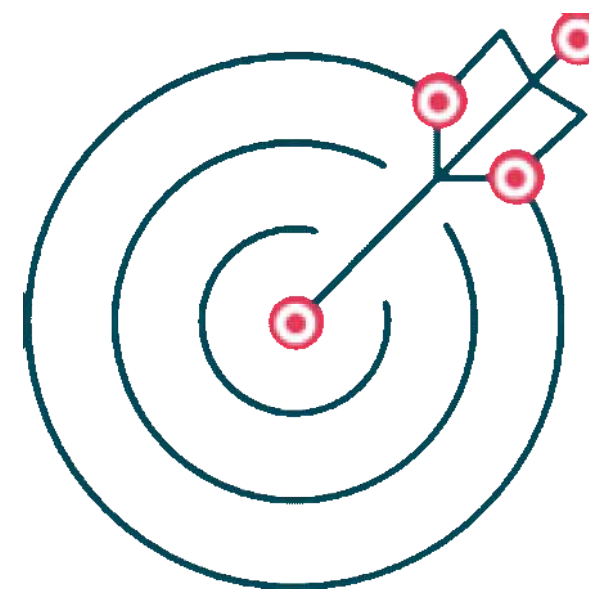
Invention Disclosure: attorney analysis

Once invention disclosure is ready, the patent attorney will:

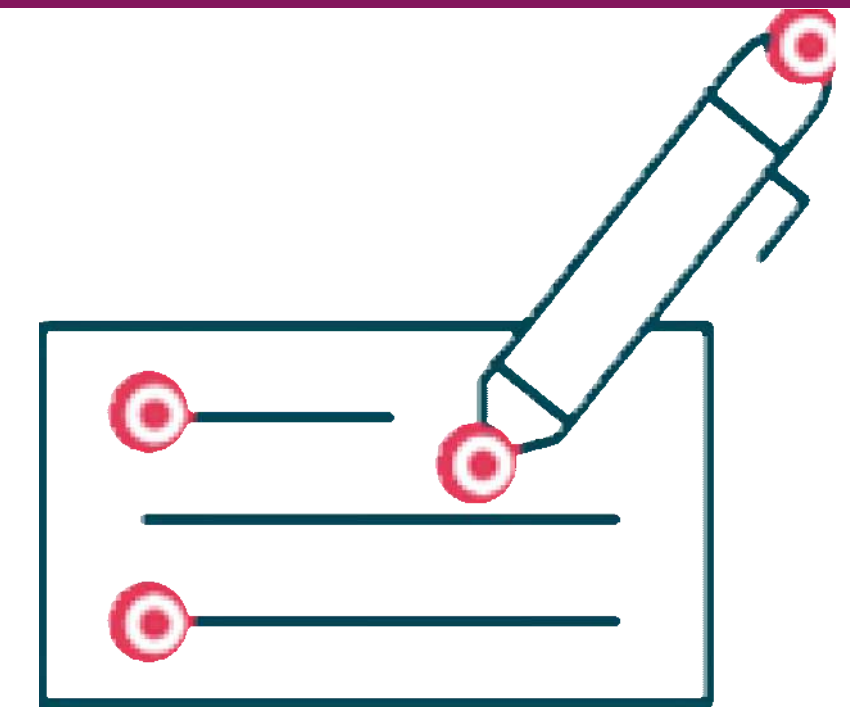
Report patentability issues



Identify where the core of the invention lies (e.g. essential features)



Draft a patent application text



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Parts of a Patent Document

Article 69 of the EPC:

*“The extent of the **protection** conferred by a European patent or a European patent application shall be determined by the **claims**”.*

“Nevertheless, the description and drawings shall be used to interpret the claims”.

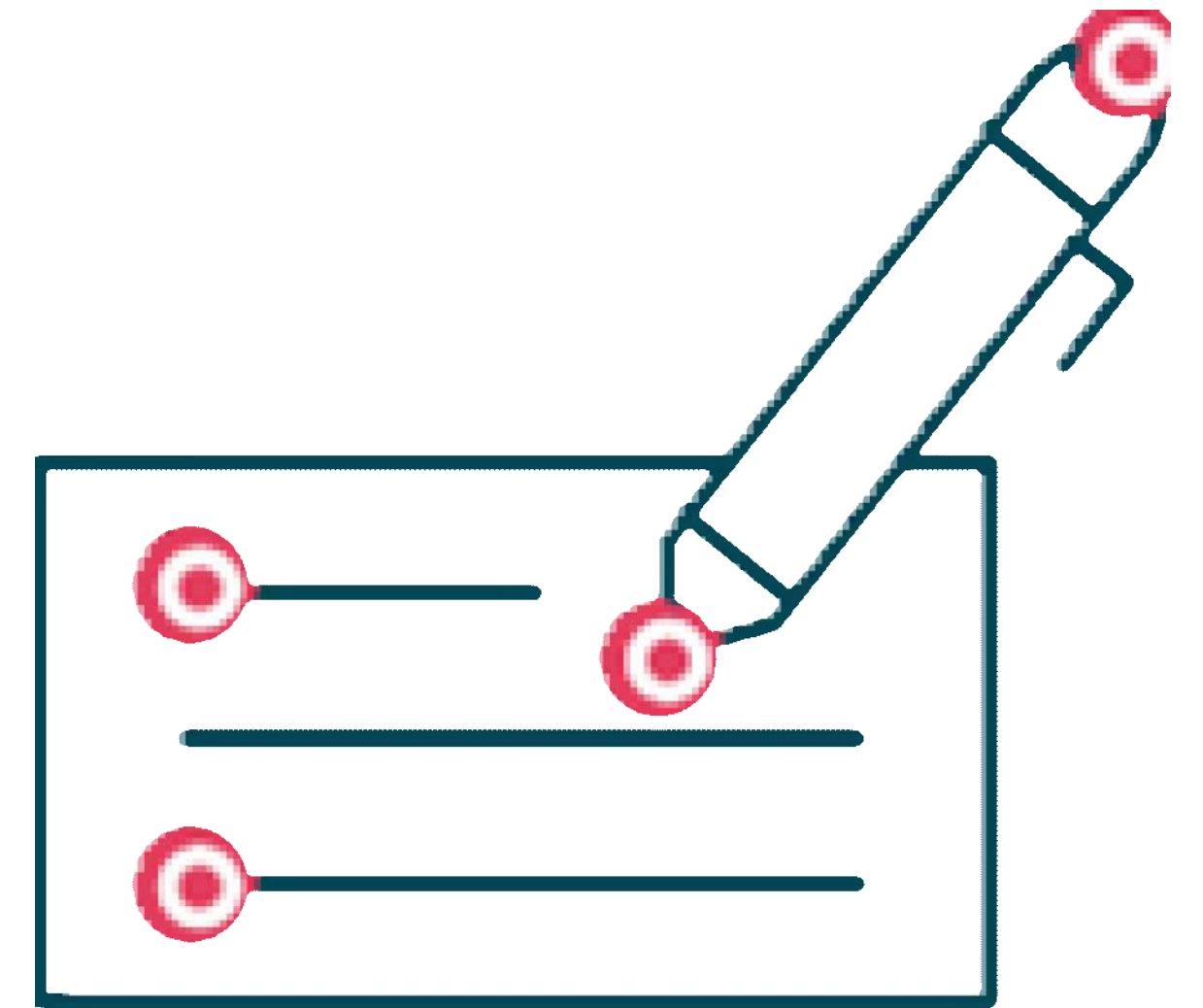
Beware of QUID without QUO – if claims are not good, we risk disclosing our invention to third parties without properly protecting it and this can leave us empty-handed.

Parts of a Patent Document

A Patent document comprises the following parts:

A description

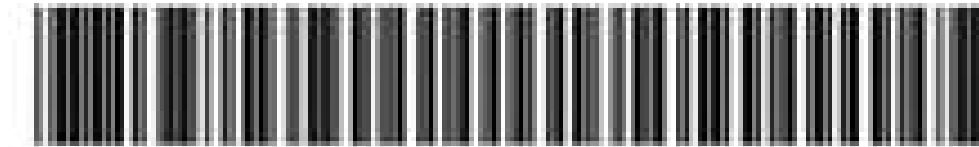
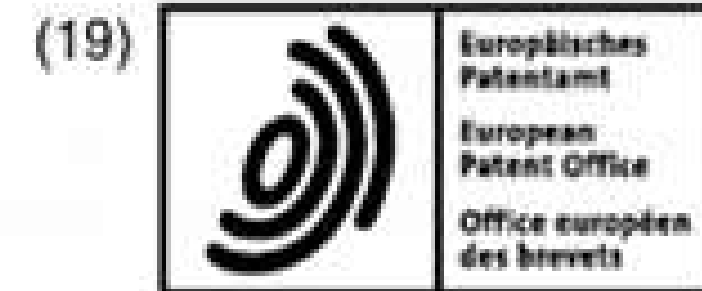
- Field of the invention
- Background of the invention
- Summary of the invention
- Brief description of the drawings
- Detailed description of the invention
- Examples



One or more claims

Optionally, one or more figures

Parts of a Patent Document



(11) **EP 1 296 401 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention
of the grant of the patent:
29.08.2007 Bulletin 2007/35

(51) Int Cl.:
H01M 10/40^(2006.01) C07F 5/02^(2006.01)

(21) Application number: **02021030.8**

(22) Date of filing: **20.09.2002**

(54) **Nonaqueous electrolyte secondary battery**
Sekundärbatterie mit nichtwässrigem Elektrolyten
Batterie secondaire à électrolyte nonaqueux

(84) Designated Contracting States:
DE FR GB

(30) Priority: **20.09.2001 JP 2001286953**
17.09.2002 JP 2002270002

(43) Date of publication of application:
26.03.2003 Bulletin 2003/13

(73) Proprietor: **Toyota Jidosha Kabushiki Kaisha**
Toyota-shi, Aichi-ken, 471-8571 (JP)

(72) Inventors:
• **Fujinami, Tatsuo**
Toyota-shi,
Aichi-ken, 471-8571 (JP)
• **Suzuki, Satoshi**
Toyota-shi,
Aichi-ken, 471-8571 (JP)

(56) References cited:
EP-A- 0 856 901 **FR-A- 2 794 750**

What are patent claims?

Claims are **the heart of a patent application**.

The description of the invention teaches how to make and use the invention.

The claims define the scope of legal protection.



The Claims: types of claims

There are two claim categories:

❖ Physical entity

- product (e.g. a PCM salt, an electrolyte, an electrode)
- apparatus / device / machine

Physical entity claims offer **absolute protection** - any use of the product is protected.

❖ Activity

- method/process
- use

Activity claims are limited to said activity.

The Claims: types of claims

1. An anode active material comprising:

a composite particle including a composite core, the composite core comprising a carbonaceous base and a nanostructure on the carbonaceous base, and a coating layer formed on the composite core, wherein the coating layer comprises a metal oxide;
wherein an amount of the coating layer formed on the nanostructure is higher than an amount of the coating layer formed on the carbonaceous base.

12. A lithium battery comprising:

a cathode comprising a cathode active material;
an anode comprising an anode active material according to any one of claims 1 to 11; and
a separator disposed between the anode and the cathode.

13. A method of manufacturing an anode active material according to any one of claims 1 to 11, comprising:

forming a composite material comprising a plurality of particles including a composite core, the composite cores including a carbonaceous base and a nanostructure on the carbonaceous base;
mixing the composite material, a catalyst and a first solvent to prepare a first solution;
mixing a metal alkoxide and a second solvent to prepare a second solution;
dropwise adding the second solution to the first solution while stirring the first solution to prepare a third solution;
washing and drying the third solution to obtain a dried product; and
heating the dried product.

Part II
