Reading and finding patents

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What are the aims when writing a patent?

- A patent text has two main functions:

  — Legally: We want an exclusive right on some technical things

    - This is for „us"!

    - Who drafts the patent is mainly interested in this

    - Main aspect: The claims; written for legal readers

  — Technically: Interested persons should learn how to do something from it

    - This is for the „public"!

    - Who drafts the patent tries to avoid this as much as possible, but is restricted by the legal requirements and the patent office

    - Main aspect: Description of the invention; written for technical readers

Patent families

- When we look for a patent, we might find many of them: "Patent family"

- "Patent family" = all members are based on a single priority (=a single patent application)

  — Typically these are nationalized patents in various countries or completely separate national patents

  — All patents are independent, but reasons for invalidating one might be useful for invalidating other family members

  — They have similar texts, but these need not be identical (nationalized → some changes might be necessary – apart from translation!)

Content of the first page

- For which country/countries is this patent valid

- Patent number, country(issuer) code

- Kind of legal instrument ("patent") and type of publication

- Classification

- Date of priority, filing, publication, grant

- Inventor, applicant

- Title

- Summary

- One drawing

- Related patents

Claims (1)

- Each claim should consist only of a single sentence if possible at all

- Each claim consists of 1 or 2 parts

  — 1: Foundation patent. There is no previous state of the art. Very rare.

  — 2: Improvements on known things

    • First part: Current state of the art closest to the invention ("Oberbegriff")

    • Second part: What is new and actually claimed ("Kennzeichnender Teil")

- Claims are the main legally relevant part of the document

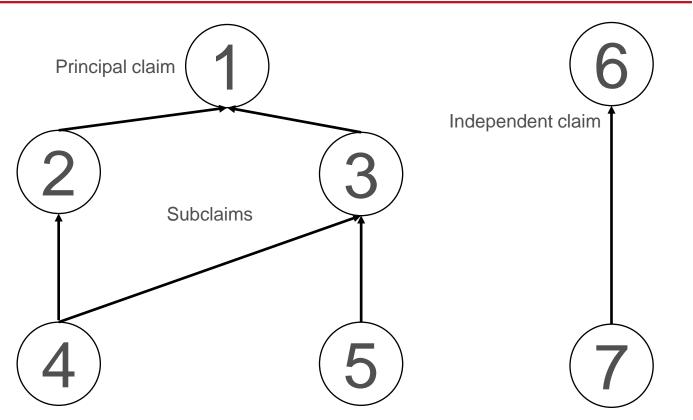 — And are therefore the part to be translated "most"

Claims (2)

- One claim is mandatory, but numerous ones are common

  — Principal claim: Most general description (=claim 1)

  — Subclaim: Specific addition to one or more previous claims

    • They need not be inventive in comparison to their "predecessors"

    • Not strictly necessary, but if the principal claim may fall, these can survive!

    • Typically some specific implementations of the principal claim

  — Independent claim: Also kind of "principal", but must be the same invention

    • Typically these are process claims, usage claims, "program on media", …

- The structure of these claims can be drawn as a graphic to help understand the patent

Drawing patent claims

Principal claim — 1

6

Independent claim

2   3

Subclaims

4   5   7

Types of publication: Austria (AT)

- A: Publication with research report

- A5: Publication without research report

- B: Patent

- B8: Corrected title sheet of a B publication

- B9: Corrected patent

- E: EP patent that is valid in Austria

- T: Translation of an EP patent

- U: Gebrauchsmuster (U1: With research report, U2: Without research report, U3: Research report alone)

Types of publication: European patent (EP)

- A1: Publication of filing with research report

- A2: Publication of filing without research report

- A3: Publication of research report

- A4: Extended research report

- A8: Corrected title sheet of an A publication

- A9: Completed publication of an A publication

- B1: Issued patent

- B2: Patent after modification

- B8/B9: See above, but for B publications

- TD: Publication of the claims in German

Classifications

- Various classifications exist, especially national ones

- But important are:

  — IPC – International Patent Classification

    • Each national patent has this in addition

  — CPC: Cooperative Classification

    • Since 1.1.2013 a combined effort between EPA and USPTO

    • More detailed than the IPC

- Who classifies a patent? The examining officer of the patent office, **not** the inventor/applicant!

- Classifications are not static: Typically updated every year

IPC classification – First level

- Section A — Human Necessities ("Täglicher Lebensbedarf")

- Section B — Performing Operations ("Arbeitsverfahren"); Transporting

- Section C — Chemistry; Metallurgy

- Section D — Textiles; Paper

- Section E — Fixed Constructions ("Bauwesen, Erdbohren, Bergbau")

- Section F — Mechanical Engineering; Lighting; Heating; Weapons; Blasting

- Section G — Physics

- Section H — Electricity

IPC classification – Subclasses

- Example: G06F 17/30

- G: Physics

- 06: Computing, calculating, counting

- F: Electric digital data processing

- 17: Digital computing or data processing equipment or methods, specially adapted for specific functions

- 30: Information retrieval; Database structures therefor

- G06F 17/26: Automatic hyphtenation

- G06F 12/14: Accessing, addressing or allocating within memory systems or architectures; Protection against unauthorised use of memory

See: http://www.wipo.int/classifications/ipc/en/

Search reports

- Search reports contain no text

- They just list publications, patents etc. including specific pages and lines and which claims they refer to

- And: Categorisation

  — X: Invalidates invention alone

  — Y: Invalidates invention together with other document

  Bad!

  — A: Technological background

  — O: Oral publication only, P: Additional literature, T: Theories the invention is based on, E: Older patent document, which has been published on/after the application date, D: Document listed in application, L: Other document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 03/046053 A (AGROLINZ MELAMIN GMBH [AT]; RAETZSCH MANFRED [AT]; BUCKA HARTMUT [AT];) 5 June 2003 (2003-06-05) page 2, paragraph 3 – page 7, paragraph 1 page 10, paragraph 5 – page 24, last paragraph; claims; examples -----	1-23
X	EP 1 416 005 A (AMI AGROLINZ MELAMINE INTERNAT [AT]) 6 May 2004 (2004-05-06) paragraphs [0007] – [0029]; claims -----	1-23
X	DE 905 850 C (CASSELLA FARBWERKE MAINKUR AG) 8 March 1954 (1954-03-08) page 1, line 17 – page 2, line 25; example 1 ----- -/--	1-23

Where to search for patents?

- Commercial databases

    — Orbit.com, Patbase, Delphion, Total Patent, …

- Free databases of the patent offices:

    — EP: Esp@cenet, EP-Register

    — DE: Depatisnet

    — US: USPTO

- Others:

    — Google patent search

Esp@cenet: http://worldwide.espacenet.com

- Worldwide search (= not only EP patents!) in English

- Search possible according to:

  — Words in title, abstract; fulltext (EP and PCT only!)

  — Publication, application, priority number

  — Publication date

  — Applicant, inventor

  — Classification (CPC, IPC)

- National portals (e.g. at.espacenet.com) allow searching national patents in national language (+ all of above)

Depatisnet: http://www.depatisnet.de

- Search through complex search terms or according to

  — Publication number, words in title, inventor, applicant, publication date, IPC classification, fulltext

- Also provides register information: Procedural details, current state

- Worldwide search possible

USPTO: http://www.uspto.gov

- Searching for US patents and applications and their status

- Searching according to:

  — Full text

  — Numerous other fields (persons, dates, owner, classifications etc.)

    • Patents before 1975 are restricted and can be searched only for issue date, patent number and current classification ☺!

  — Drawback: Complex syntax required; sometimes very picky (numbers!)

    • Example: in/newmar-julie ≡ Inventor "Julie Newmar"

Google: http://www.google.com/patents

- Searching possible in US, EP, PCT, CH, DE, CA patents and applications

    — Also show "legal events", i.e. register information

- Additional restrictions are possible: Date, applied/granted, …

- Full text search is possible

    — Links to publications directly if possible ($\rightarrow$ Google scholar)

EPO Register: https://register.epo.org/regviewer

- State of patents (as far as public!): Process and legal

- Includes full text of communication, e.g. appeals, complaints, requests for reexamination etc.

- Contains links to registers of many national patent offices

- Content:

  — Full procedure, payment of fees, current legal state (valid/elapsed) etc.

Searching for patents

- Keywords: What is most likely to be used in title and description?

  — Do NOT use the keywords from the patent class descriptions → useless

    - = Ccovered already with the next kind of search; no additional help!

- Patent classes: Classes of similar patents, where should it probably be?

- Patents from research report: Cited and citing

  — Which patents were earlier?

  — Most databases create back-links: When cited by a later patent, the earlier patent is linked to the later one too

- Good search: Several strategies employed!

Practical advice (1)

- What is the patent about and what are its important aspects?

    — Find synonyms for them!

- In which class should it be?

    — And where are similar patents, which have already been found?

- Strategies:

    — Keyword(s) + Keyword(s)

    — Keyword(s) + Class(es)

    — Class(es) + Class(es)

    — Applicant + Keyword(s) / Class(es)

    — Inventor + Keyword(s) / Class(es)

    — Fulltext search

Practical advice (2)

- Iterative refinement

  — Additional keywords/classes should be used to repeat past steps

- Document all searches made to avoid duplicates

  — Practically very important ☺ !

- Close cooperation with patent attorney: "Does this help?"

  — Ideally this is a stepwise refinement

Exemplary patent: EP0807891

- How do we find it?

- Use Espacenet!

  — Enter the number and click search

- Bibliographical data: General information

  — Title, inventors, applicant, classification, various numbers, priority/other numbers

  — Abstract: Brief overview (can be automatically machine-translated by Google into many languages!)

  — One drawing

- Generally the information from the first page

Exemplary patent: EP0807891

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Approximately **11,736** results found in the Worldwide database for:
G06F13/00 or G06Q30/00 as the Cooperative Patent Classification
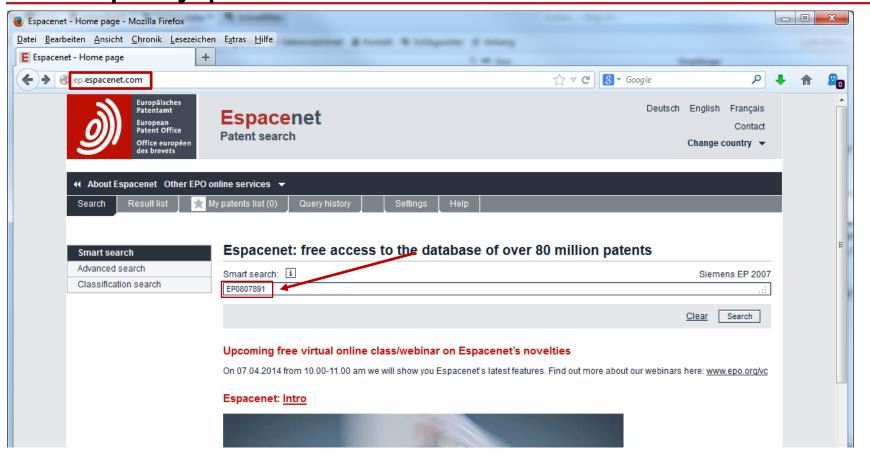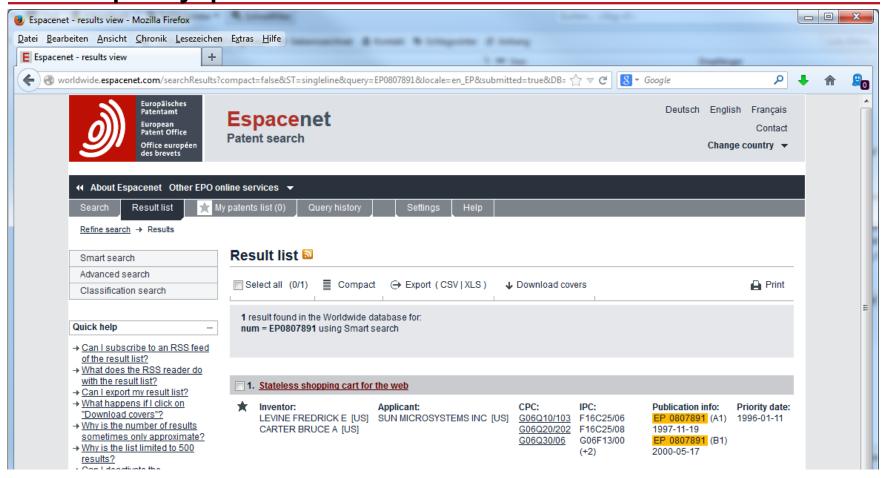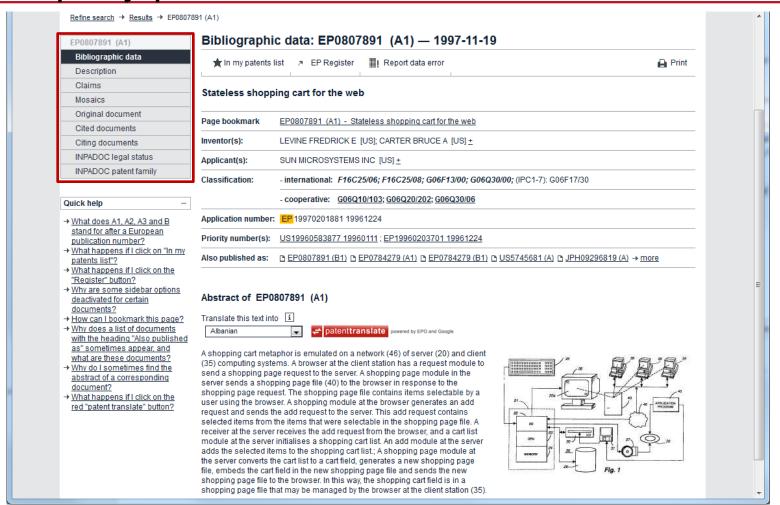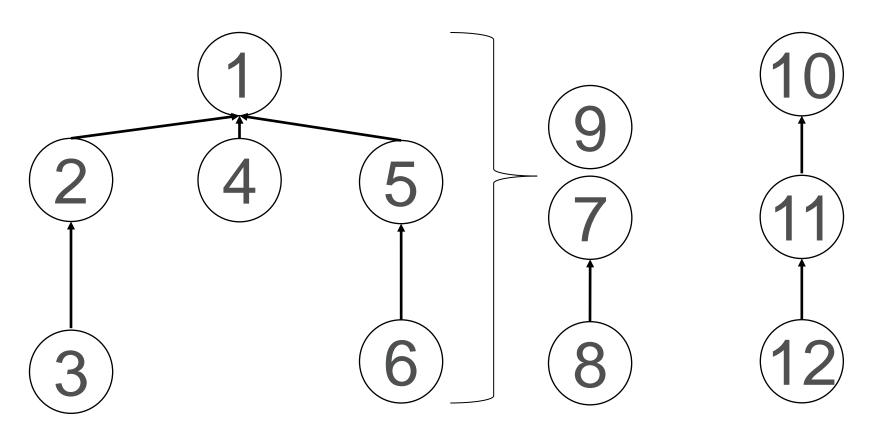Only the first **500** results are displayed.

`1` ▶

Results are sorted by date of upload in database

Quick help −

→ Can I subscribe to an RSS feed of the result list?
→ What does the RSS reader do with the result list?
→ Can I export my result list?
→ What happens if I click on "Download covers"?
→ Why is the number of results sometimes only approximate?
→ Why is the list limited to 500 results?
→ Can I deactivate the highlighting?
→ Why is it that certain documents are sometimes not displayed in the result list?
→ Can I sort the result list?
→ What happens if I click on the star icon?
→ What are XP documents?
→ Can I save my query?

Related links +

☐ 1. **No title available**

★ | Inventor: | Applicant: | CPC: G06F13/00 G06F17/30 | IPC: G06F13/00 G06F17/30 | Publication info: CN103782281 (A) 2014-05-07 | Priority date: 2012-06-28

☐ 2. **Systems for providing specialty product information to consumers**

★ | Inventor: MARGGRAFF BRETT [US] MARGGRAFF ELAINE [US] | Applicant: MARGGRAFF BRETT [US] MARGGRAFF ELAINE [US] (+1) | CPC: G06Q30/00 G06Q30/0601 G06Q30/0623 (+4) | IPC: G06Q30/00 | Publication info: US8719113 (B1) 2014-05-06 | Priority date: 2005-07-28

☐ 3. **Methods and systems for improving bid efficiency of a content provider**

★ | Inventor: KENT JAMES [GB] | Applicant: GOOGLE INC [US] | CPC: G06Q30/00 | IPC: G06Q30/00 | Publication info: US8719089 (B1) 2014-05-06 | Priority date: 2013-06-13

☐ 4. **Index for assessing discount potential**

★ | Inventor: MCRAE XUAN [US] ROLAND MATHEW [US] (+1) | Applicant: JPMORGAN CHASE BANK NA [US] | CPC: G06Q30/00 G06Q40/00 | IPC: G06Q30/00 G06Q40/00 | Publication info: US8719078 (B1) 2014-05-06 | Priority date: 2008-04-08

☐ 5. **Information processing system and information processing method**

★ | Inventor: ISHIDA TETSURO [JP] BOUNNONG HEUNGMANY [LA] (+1) | Applicant: KPI SOLUTIONS CO LTD [JP] | CPC: G06F13/00 G06Q30/02 | IPC: G06F13/00 G06F15/167 G06Q30/02 | Publication info: TW201407518 (A) 2014-02-16 | Priority date: 2012-05-08

☐ 6. **50 Gb/s Ethernet using serializer/deserializer lanes**

★ | Inventor: MASOOD BURHAN [US] FRAZIER HOWARD [US] | Applicant: BROADCOM CORP [US] | CPC: G06F13/00 H04L12/4013 H04L45/16 (+1) | IPC: H04L12/931 | Publication info: TW201406110 (A) 2014-02-01 | Priority date: 2012-07-16

☐ 7. **Information Classification Based on Product Recognition**
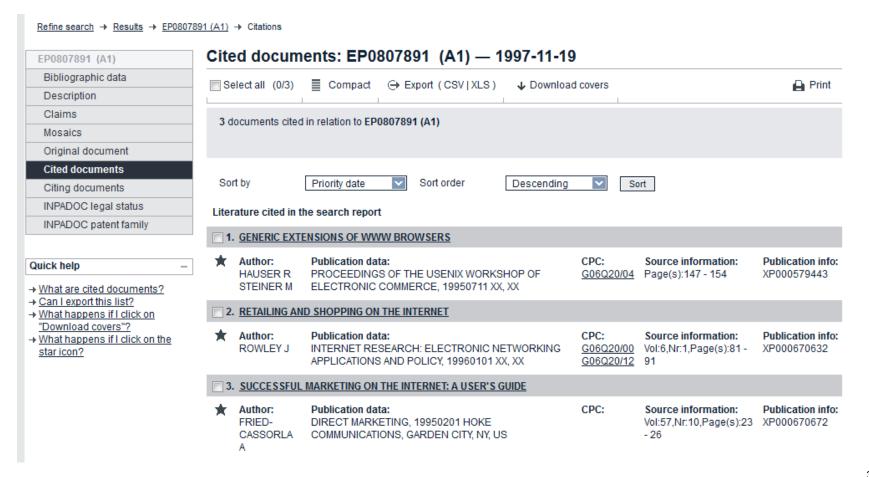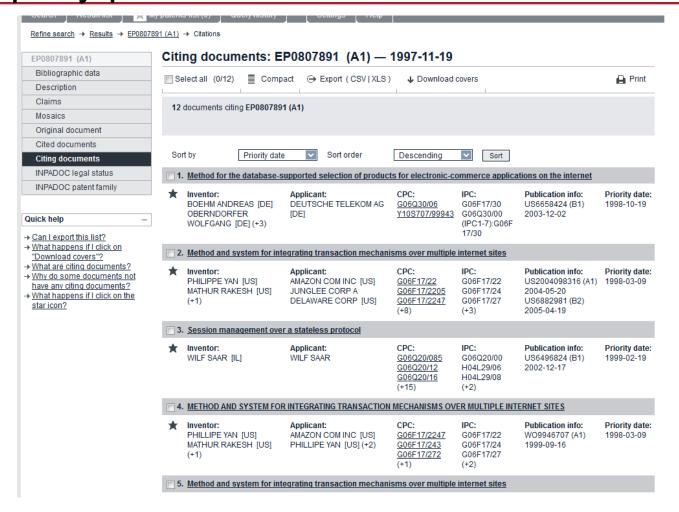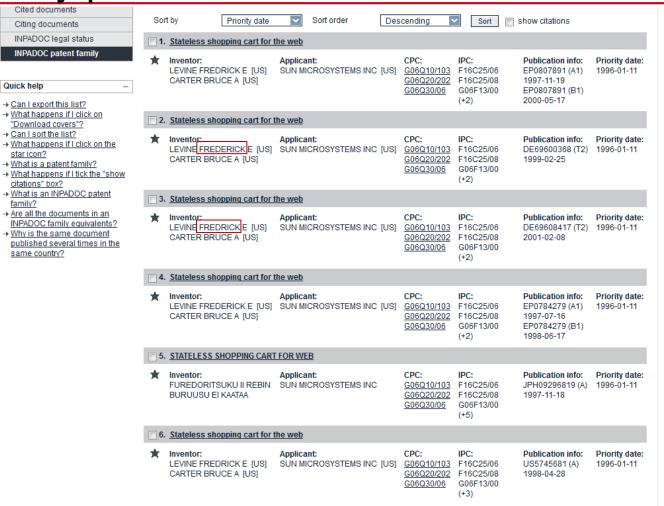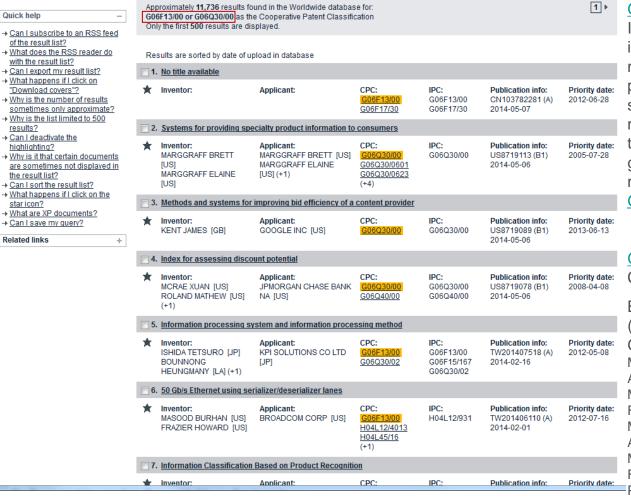
★ | Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date:

G06F13/00
Interconnection of, or transfer of information or other signals between, memories, input/output devices or central processing units (interface circuits for specific input/output devices G06F3/00 ; multiprocessor systems G06F15/16 ; transmission of digital information in general H04L; selecting H04Q; { multiprogramme control therefor G06F9/46 })
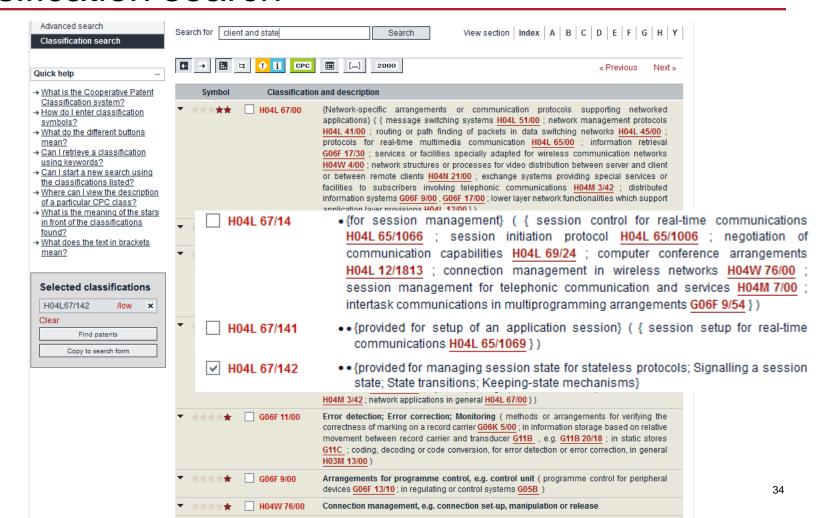
G06Q30/00
Commerce, e.g. shopping or e-commerce

Butt see also: G (Physics), G06 (Computing, Calculation, Counting), and G06Q (DATA PROCESSING SYSTEMS OR METHODS, SPECIALLY ADAPTED FOR ADMINISTRATIVE, COMMERCIAL, FINANCIAL, MANAGERIAL, SUPERVISORY OR FORECASTING PURPOSES; SYSTEMS OR METHODS SPECIALLY ADAPTED FOR ADMINISTRATIVE, COMMERCIAL, FINANCIAL, MANAGERIAL, SUPERVISORY OR FORECASTING PURPOSES, NOT OTHERWISE PROVIDED FOR)

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Classification search

Description

- Introduction to general area of technology, aims and usage of the invention

  — Here: Lines 5-14

- State of the art or existing prior technology (16-51)

  — Typically includes a problem decription

- Summary of the invention with its advantages and how it works (53-Col. 3:17)

  — Often includes the specific advantages

- Description of the drawings (19-32)

  — Examples only; all elements need not be necessary for actual implementation

  — All parts must be numbered and referenced in the text

- Examples of how to implement the invention (34-10:25)

Vielen Dank für die Aufmerksamkeit

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