



## Topic 3: **Claims**

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**16 December 2013**

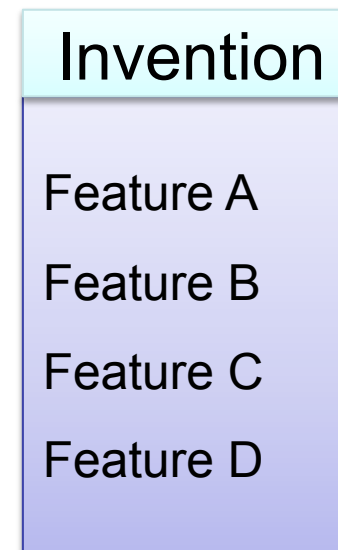
# Agenda

- Claims
  - Types:
    - independent, dependent claims
    - one or two part claims
  - Claims and unity of patents
  - Interpretation of claims
  - Evolution of claims

# What is a patent ?

- A patent is an exclusive right granted for an **invention**, i.e. the invention cannot be used by others for **commercial** purposes without permission of the owner
- An invention offers a **technical solution** to a **problem**

- Each invention can be defined by the **features** that are **essential** to solve the problem



# Claims

- Patents are an instrument to protect an invention
- Claims define the **scope of protection**
  - Claims have to be clear and concise
  - Claim wording should not permit ambiguous interpretation
  - > Principle of **Legal Certainty**
- Description and drawings are used to interpret the claims
- Only subject matter described in claims is examined for novelty and inventive step
- Claims therefore determine the initial scope of the prior art search
- Effective search is not possible without clear claims
- Examining claims is the core business of a patent examiner

# Claim sample

1. A method of producing a soya bean product, the method including the step of exposing soya beans to an acidic aqueous solution.
2. A method as claimed in Claim 1, in which the acidic aqueous solution has a pH of between about 2,0 and 5,5.
3. A method as claimed in Claim 1 or Claim 2, in which the soya beans are whole beans.
4. A method as claimed in any one of the preceding claims, which includes the prior step of dissolving an organic acid in water to produce the aqueous acidic solution.
5. A method as claimed in Claim 4, in which the organic acid is citric acid.

# Samples of claims

- [EP 2006651 A2](#)
- [EP 2006651 B1](#)
- [US 7860665 B2](#)



# Types of claims

## ■ Dependent claim

- Any claim that refers to at least one other claim, e.g.

“2. Apparatus according claim 1 where {feature1} ....”

“3. Apparatus according claim 1 **or** 2 where {feature2}”

“6. Apparatus according claim 1 **and** 2 where {feature3}”

“7. Apparatus according any of the preceeding claims where {feature4} ....”

- By way of reference the features/elements of the referenced claim are included, ie combined with the other features/elements
- References are therefore admissible only to claims of same category (method, product, device)

# Problematic claims

## Sample

1. Machine for doing xxxx characterized by ....
2. Machine according claim 1 characterized by ... **Ok**
3. Process according claim 1 whereby.... **Not ok**
  
5. Process for xxxx using a machine according claim 1 whereby ..... **Ok**



# Types of claims

## ■ Independent claim

- Wording of claim does not refer to any other claim with the purpose of including the , e.g.

“1. Apparatus for making ....

“1. Method for mixing .....

“3. Electrically powered mixer with ...

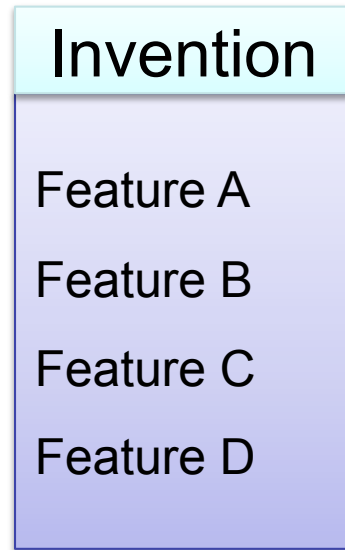
- First independent claim is **main claim**
- Further independent claims are possible

# Why not only independent claims?

- 1. Machine with a, b, c.
  2. Machine according claim 1 with d.
  3. Machine according claim 2 with e.
  
- Why not:
  2. Machine with a, b, c, d.
  3. Machine with a, b, c, d, e.
  
- Independent and dependent claims are needed to distinguish between claims describing an invention and claims describing additional advantageous embodiments (i.e. additional features not needed to solve the problem)

# Types of claims

- **Main claim (1<sup>st</sup> independent claim):**  
Includes **all** the features/elements of the invention which are **essential** to solve the problem, and **only** those features!
- **Dependent claims:**  
additional, e.g. advantageous features
- **Further independent claims:**  
alternative similar solutions for **same problem (unity of invention!)**



# Unity of patents

- Unity of patents: Claiming of several inventions in one application is not admissible, i.e. solutions to several problems
- Main claim defines inventive subject matter
- Further independent claims define other related inventive subject matter, e.g.
  - a product if 1<sup>st</sup> claim is process, or vice versa
  - different solution of same problem
- Unity is checked with respect to independent claims if more than one independent claim
- Unity is given as long as inventive subject matters are linked to **same problem**
- Lack of unity: solvable by divisional application, or withdrawal of claims

# Claim sample – one part claim

1. A method of producing a soya bean product, the method including the step of exposing soya beans to an acidic aqueous solution.
2. A method as claimed in Claim 1, in which the acidic aqueous solution has a pH of between about 2,0 and 5,5.
3. A method as claimed in Claim 1 or Claim 2, in which the soya beans are whole beans.
4. A method as claimed in any one of the preceding claims, which includes the prior step of dissolving an organic acid in water to produce the aqueous acidic solution.
5. A method as claimed in Claim 4, in which the organic acid is citric acid.

# Claim sample – two part claim

Introducing part (category, purpose)

1. A method of determining the torque induced in a rotating shaft (51),
  - A the shaft (51) having a torsional oscillation frequency that is dependent on the stiffness of the shaft (51),
  - B where the torsional oscillation frequency and the stiffness are dependent upon the operating conditions of the shaft (51),

the method comprising: ← generic expression

- C measuring (35) the torsional oscillation frequency of the rotating shaft (51);
- D measuring (39) the twist induced in the rotating shaft (51) by the torque; and
- E using (41) the measured value of the torsional oscillation frequency and the measured value of the induced twist to determine the torque induced in the shaft (51).

↑  
Sequence of 5 features A – E (added)

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# Claim sample – two part claim

Introducing part (category, purpose)

1. A method of determining the torque induced in a rotating shaft (51),
  - A the shaft (51) having a torsional oscillation frequency that is dependent on the stiffness of the shaft (51),
  - B where the torsional oscillation frequency and the stiffness are dependent upon the operating conditions of the shaft (51),

characterized in that

generic expression

- C the torsional oscillation frequency of the rotating shaft (51) is measured (35);
- D the twist induced in the rotating shaft (51) by the torque is measured (39); and
- E the measured value of the torsional oscillation frequency and the measured value of the induced twist are used (41) to determine the torque induced in the shaft (51).

Sequence of 5 features A – E (added)

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# Deconstruction of claim wording

- Deconstruction of claim wording, ie structuring/sorting the subject matter of a claim into distinct features/elements facilitates:
  - the understanding of the subject matter
  - the checking of the clarity of the claim wording
  - the assessing of novelty by comparing the distinct features with the prior art
  - the determination of the closest prior art
  - (the determination of the difference to the closest prior art)
  - the searching the prior art



# Types of claims

- One part claim:

includes just list of essential features

“1. Apparatus {with,where} A,B,C,D”

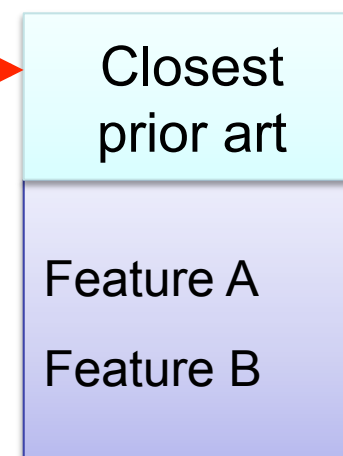
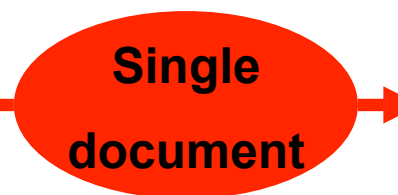
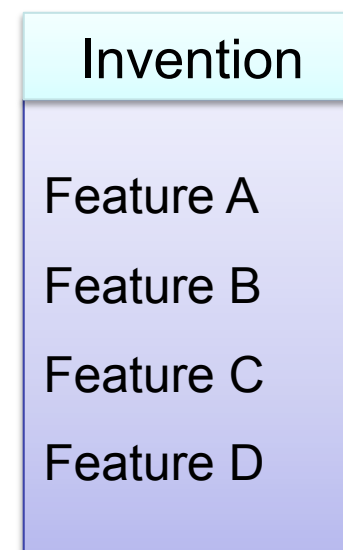
- Two part claim:

“1. Apparatus with A and B,  
characterized in that C and D”

> first part (preamble) describes closest prior art

> second part describes difference(s)

between invention and closest prior art



# One or two parts ?

## ■ Two part claim

- Standard claim type at EPO whenever possible
- What is closest prior art ?
- Inventive step could also be challenged by combining other prior art, e.g. by combining two documents which are not closest

## ■ One part claim

- Emphasizes the invention as a whole
- Natural/logical sequence of features instead of artificial separation into two sets
- Encouraged at DPMA
- Should always be used if it is not clear what the closest prior art is

# Admissible claim amendments

- Inclusion of additional features taken from description or other claims
- Replacement of features
- Completely reworded claims
  
- All features have to be **supported by the original description**
- Features from drawings not supported by the description are not permitted, i.e. they have to be mentioned explicitly in description
  
- Examiner to check whether amended claims are within initial disclosure

# Interpretation of claims

- Purpose indicated in introductory part is irrelevant for assessing novelty and inventive step
  - Unless the invention is a new use of a known product/process
- Features or components with reference numeral to drawings:
  - details not explicitly repeated in claim are irrelevant, i.e. expression in claim is interpreted in the widest sense possible
- Optional features are irrelevant, e.g.
  - Features introduced by “especially”, “particularly”, “for example”, “e.g.” ...
- “comprising” : non-exhaustive enumeration of items
- “consisting of” : exhaustive enumeration of items

# Interpretation of claims

- Process claims: protection extends to product obtained through process
- Product by process claim: if product cannot be described otherwise
- Use claims are process/method claims
- Dependent claims are interpreted as comprising all the features of the directly and indirectly referenced claims.

# Evolution of claims

- Claims are usually different at different publication and prosecution stages of same application
- Independent claims in applications published before examination (A1, A2) have broader scope
  - Published as originally filed, or
  - As amended up to publication (dependent on jurisdictions; PCT does permit amendments only after receipt of ISR)
- Claims of granted patents are
  - Usually narrower, i.e. include additional features
  - May be totally different
- Claims after opposition have often narrower scope
- Only claims of granted patent are relevant for FTO analysis

# Claim sample – before examination

Introducing part (category, purpose)

1. A method of determining the torque induced in a rotating shaft (51),
  - A the shaft (51) having a torsional oscillation frequency that is dependent on the stiffness of the shaft (51),
  - B where the torsional oscillation frequency and the stiffness are dependent upon the operating conditions of the shaft (51),

characterized in that

generic expression

- C the torsional oscillation frequency of the rotating shaft (51) is measured (35);
- D the twist induced in the rotating shaft (51) by the torque is measured (39);  
and
- E the measured value of the torsional oscillation frequency and the measured value of the induced twist are used (41) to determine the torque induced in the shaft (51).

Sequence of 5 features A – E (added)

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# Claim sample – granted claim

1. A method of determining the torque induced in a rotating shaft (51),  
**A** the shaft (51) having a torsional oscillation frequency that is dependent on the stiffness of the shaft (51),  
**B** where the torsional oscillation frequency and the stiffness are dependent upon the operating conditions of the shaft (51),

the method comprising:

- C** measuring (35) the torsional oscillation frequency of the rotating shaft (51);
- D** measuring (39) the twist induced in the rotating shaft (51) by the torque; and
- E** using (41) the measured value of the torsional oscillation frequency and the measured value of the induced twist to determine the torque induced in the shaft (51);
- F** the torsional oscillation frequency of the shaft (51) and the induced twist are measured (35) at the second set of operating conditions;

the method is **characterized by**

- G** determining the torsional oscillation frequency of the shaft (51) at a second set of operating conditions at which the stiffness of the shaft (51) can be determined (33) and
- H** determining the stiffness of the shaft (51) at the second set of operating conditions;
- I** the torque induced in the shaft (51) at the first set of operating conditions is determined (41) using the measured torsional oscillation frequency and the induced twist at the first set of operating conditions, and the measured torsional oscillation frequency and the stiffness at the second set of operating conditions



# Claim amendments in PCT system

- Amendment after receipt of ISR (amendments **before International Bureau**; **Article 19**)
- Amendment of claims, description, drawings **before Designated Office** (**Article 28**), ie in national phase
- In case of IPE (chapter II)
  - Amendment of claims, description, drawings **before International Preliminary Examining Authority** (**Article 34**)
  - **Further amendments** during IPE (**Article 66.4**), e.g. in response to written opinion
- Amendment of claims, description, drawings **before Elected Office** (**Article 41**), i.e. in national phase

Thank you

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