

# Patents

The Why's, the What's  
and the How's

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# The Why's

## Why patents?

Because it might be about ***your money!***

specifics to follow ...

# The Why's

... or about Dogbert's money



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# The Why's

## Some Stereotypes: Really Dangerous

### US 221,855 (Oppenheimer)

### Improvements in Fire-Escapes (1879)

#### UNITED STATES PATENT OFFICE.

BENJAMIN B. OPPENHEIMER, OF TRENTON, TENNESSEE.

#### IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. 221,855, dated November 18, 1879; application filed March 26, 1879.

*To all whom it may concern:*

Be it known that I, BENJAMIN B. OPPENHEIMER, of Trenton, in the county of Gibson and State of Tennessee, have invented a new and Improved Fire-Escape, of which the following is a specification.

The accompanying drawing represents a side view of a person with my improved fire-escape, shown as applied for use.

This invention relates to an improved fire-escape or safety device, by which a person may safely jump out of the window of a burning building from any height, and land, without injury and without the least damage, on the ground; and it consists of a parachute attached, in suitable manner, to the upper part of the body, in combination with overshoes having elastic bottom-pads of suitable thickness to take up the concussion with the ground.

Referring to the drawing, A represents a head-piece, constructed in the nature of a parachute, and made of soft or waxed cloth, awning-cloth, or other suitable fabric. The parachute is about four or five feet in diameter, stiffened by a suitable frame, and attached by

a leather strap or other fastening, in reliable manner, to the head, neck, or arms.

In connection with the head-piece or parachute applied to the upper part of the body are used overshoes B, with elastic soles or pads C, of suitable thickness, that take up the sudden shock on arriving on the ground.

The parachute serves for the purpose of buoying the body in the air after the person has leaped from the window of the burning building, while the padded shoes secure the safe landing on the ground.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

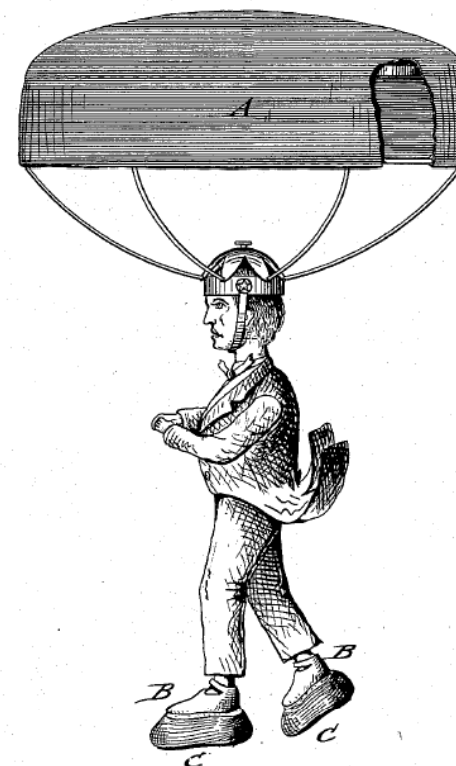
A fire-escape consisting of a parachute attached to the upper part of the body, and of thickly-padded shoes applied to the feet, substantially as described.

BENJAMIN B. OPPENHEIMER.

Witnesses:

JOHN H. GLASS,  
W. P. NORTHCOTES,  
LEWIS GLASS.

B. B. OPPENHEIMER.  
Fire-Escape.  
No. 221,855. Patented Nov. 18, 1879.



# The Why's

## Not enforceable, but really charming

US 6,368,227 B1 (Olson)

A method of swinging on a swing

Lastly, it should be noted that because pulling alternately on one chain and then the other resembles in some measure the movements one would use to swing from vines in a dense jungle forest, the swinging method of the present invention may be referred to by the present inventor and his sister as "Tarzan" swinging. The user may even choose to produce a Tarzan-type yell while swinging in the manner described, which more accurately replicates swinging on vines in a dense jungle forest. Actual jungle forestry is not required.

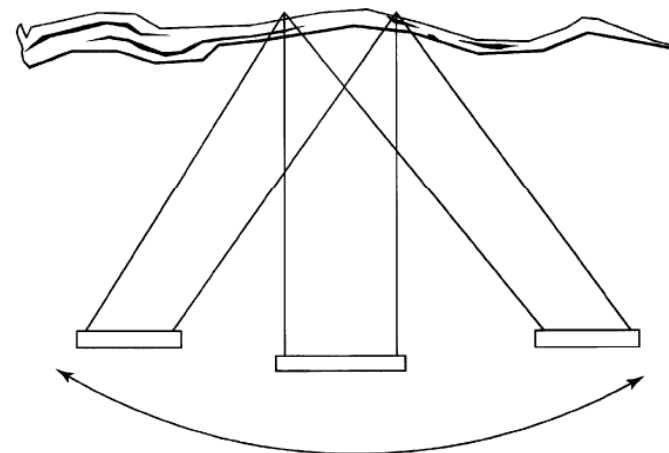
Licenses are available from the inventor upon request.

I claim:

1. A method of swinging on a swing, the method comprising the steps of:

- a) suspending a seat for supporting a user between only two chains that are hung from a tree branch;
- b) positioning a user on the seat so that the user is facing a direction perpendicular to the tree branch;
- c) having the user pull alternately on one chain to induce movement of the user and the swing toward one side, and then on the other chain to induce movement of the user and the swing toward the other side; and
- d) repeating step c) to create side-to-side swinging motion, relative to the user, that is parallel to the tree branch.

(12) <b>United States Patent</b>		(10) Patent No.:	<b>US 6,368,227 B1</b>
<b>Olson</b>		(45) Date of Patent:	<b>Apr. 9, 2002</b>
(54) <b>METHOD OF SWINGING ON A SWING</b>	5,413,298 A * 5/1995 Perreault .....	248/228	
(76) Inventor: <b>Steven Olson</b> , 337 Otis Ave., St. Paul, MN (US) 55104		* cited by examiner	
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.		<i>Primary Examiner</i> —Kien T. Nguyen	
		(74) <i>Attorney, Agent, or Firm</i> —Peter Lowell Olson	
(21) Appl. No.: <b>09/715,198</b>		(57) <b>ABSTRACT</b>	
(22) Filed: <b>Nov. 17, 2000</b>			A method of swing on a swing is disclosed, in which a user positioned on a standard swing suspended by two chains from a substantially horizontal tree branch induces side to side motion by pulling alternately on one chain and then the other.
(51) <b>Int. Cl.</b> 7 .....	<b>A63G 9/00</b>		
(52) <b>U.S. Cl.</b> .....	<b>472/118</b>		
(58) <b>Field of Search</b> .....	472/118, 119, 472/120, 121, 122, 123, 125		
(56) <b>References Cited</b>			<b>4 Claims, 3 Drawing Sheets</b>
	U.S. PATENT DOCUMENTS		
	242,601 A * 6/1881 Clement .....		472/118



# The Why's

## Stereotypes: Early Success

US 549,160 (Selden)

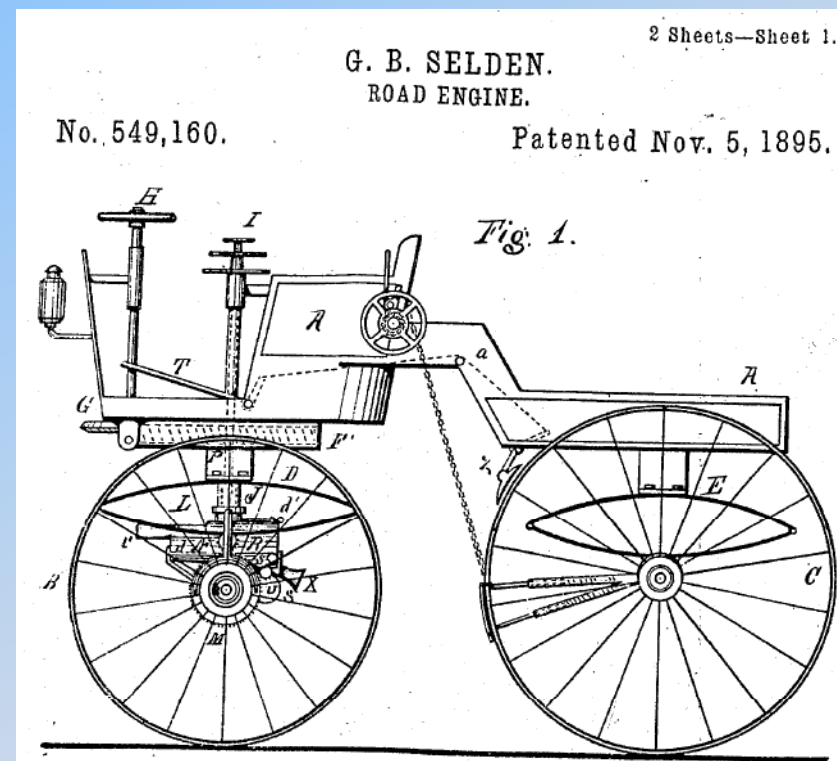
Road Engine (Appl. 1879, issued 1895)

(until 1915 licensed to most US auto manufacturers, though famously not by Ford)

**I claim—**

1. The combination with a road-locomotive, provided with suitable running gear including a propelling wheel and steering mechanism, of a liquid hydrocarbon gas-engine of the compression type, comprising one or more power cylinders, a suitable liquid-fuel receptacle, a power shaft connected with and arranged to run faster than the propelling wheel, an intermediate clutch or disconnecting device and a suitable carriage body adapted to the conveyance of persons or goods, substantially as described.

2. The combination with a road-locomotive, provided with suitable running gear including a propelling wheel and steering mechanism, of a liquid hydrocarbon gas-engine of the compression type, comprising one or more power cylinders, a suitable liquid-fuel receptacle, a power shaft connected with and arranged to run faster than the propelling wheel, an intermediate clutch or disconnecting device, and a suitable carriage body located above the engine, substantially as described.



## Other people's money

### Examples:

#### German science

- Fraunhofer-Gesellschaft, MP3, > 60 Mio. €/a in licensing fees
- GSI, heavy ion tumor therapy, licensed to *Siemens - Medical Solutions*

#### Microsoft

- 1994: *Microsoft* paid US\$ 120 Mio to *Stac Electronic* for infringing disk compression related patents (Stacker)
- 2003-2004: *Microsoft* paid US\$ 521 Mio. to *Eolas* for infringing Active-X related patents
- 2004: *Microsoft* paid US\$ 440 Mio. to *InterTrust* for Digital Rights Management (DRM) related patents

#### Other areas

- Settlements in US over patent infringement litigation in pharmacy or chemistry, a.o., routinely go above US\$ 50 Mio.

# The Why's

## No “Why” without a bit of “What” ...

### Definition

(by the European Patent Office)

“A patent is a *legal title* granting its holder the right to *prevent* third parties from *commercially exploiting* an invention without authorisation.”



## Why patents?

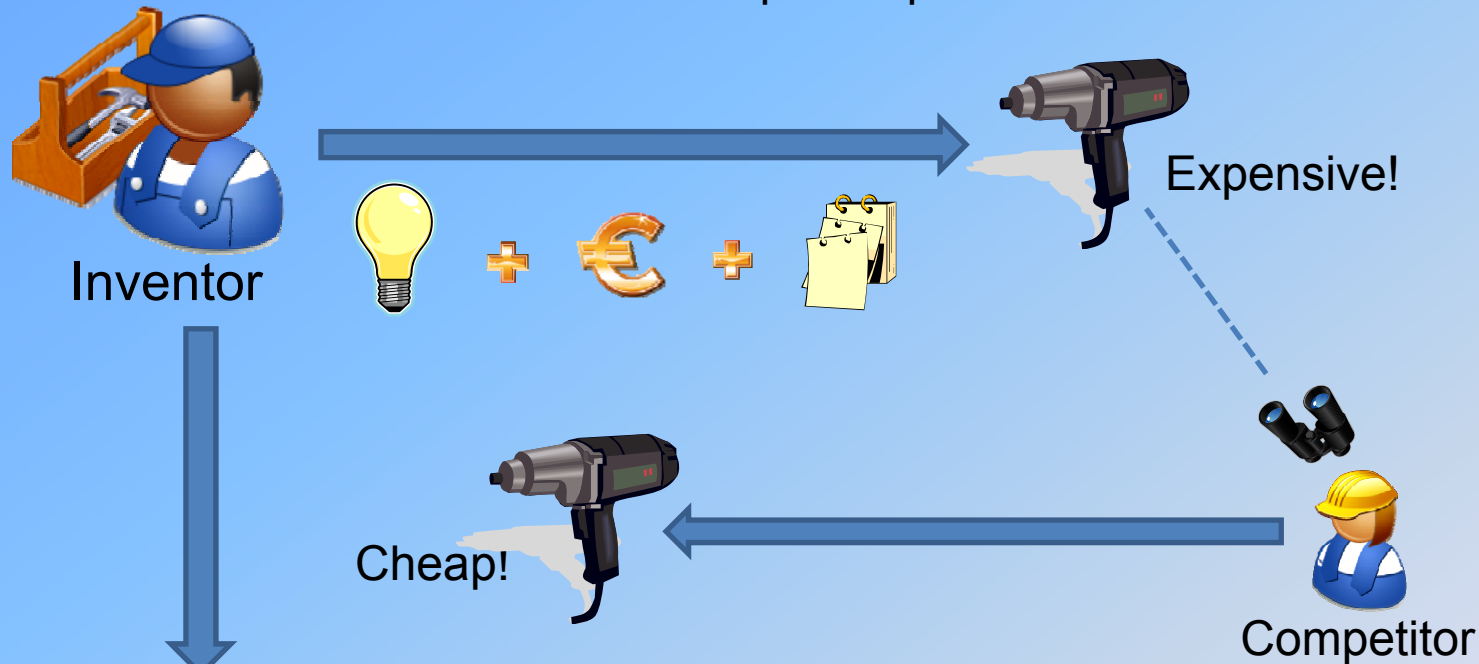
### Copying vs. Patents?

- Copying, i.e., the adoption or exploitation of someone else's work or achievement, is inherent to competition and not per se unwanted in the economy.
- Copying helps to prevent monopolies and to allocate market power to competitors who provide the same goods or services most efficiently.
- However, when it comes to *innovations or inventions*, copying punishes the inventors who have invested time and money in their inventions and have to have their investments returned via a comparatively high price of their innovative goods or services.
- Therefore, patents are granted under certain conditions in order to protect the investments into inventions.

# The Why's

## A bit of economic theory

Case I: No patent protection



### **Inventor:**

Investment doesn't pay off  
→ No more investments  
→ Innovation is stifled

### **Competitor:**

Copying is integral part of competition:  
→ No investment necessary  
→ No innovation necessary

# The Why's

## A bit of economic theory

Case II: Patent protection



### **Inventor:**

Investment pays off  
More investments will follow  
Innovation is ensured

### **Competitor:**

Needs to invest  
Needs to innovate  
Competition is promoted

## Therefore, ...

... patents make sense economically, because

- Innovation is stimulated,
- Investments are stimulated,
- Competition is stimulated,
- *and you may make money on your invention, if you do it right...*

## Where to seek Patent Protection

- *National patents*, issued by national patent offices (DE, US, JP, CN, ...)
- *Regional patents*, issued by regional patent offices (e.g., EP) must be validated in each designated member state (27 EU + CH, LI, IS, TR, CR, NO, extension possible to AL, FYM, SR), i.e., fees have to be paid, translations filed ...
- *International patent applications (PCT, currently 139 member states)*  
Non-binding search and examination, followed by the national phase, in which the applications are examined again and issued by national or regional patent offices.

## Example: The European Patent Convention

Basic definitions of Patent Law will in the following be given by example of the *European Patent Convention (EPC)*. All 27 members of the EU as well as several other European countries (a. o., CH, LI, TR, CRO, NO, IS) are member states of the EPC, and their patent laws are largely harmonized with the EPC.

## Patentable Subject-Matter

European patents shall be granted for any *inventions*, in *all fields of technology*, provided that they are *new*, involve an *inventive step* and are susceptible of *industrial application*.

(Art. 52 (1) EPC)

## Novelty

- An invention shall be considered to be new if it does not form part of the *state of the art*.
- The state of the art shall be held to comprise *everything made available to the public* by means of a written or oral description, by use, or in any other way, before the date of filing of the European patent application.

(Art. 54 (1, 2) EPC)



## State of the Art

- During examination (patent office), state of the art will mostly be
  - Patent literature and
  - Scientific articles (mostly in chemistry and microbiology)
- During opposition proceedings or revocation proceedings, state of the art may also comprise
  - evidence of prior use (producing, selling, advertising)
  - earlier oral presentations
  - co-operations not under agreement of secrecy

## Inventive Step

An invention shall be considered as *involving an inventive step* if, having regard to the state of the art, it is *not obvious* to a *person skilled in the art*. (...)

(Art. 56 EPC)

## Industrial Applicability

An invention shall be considered as susceptible of industrial application if it can be made or used in any kind of industry, including agriculture.

(Art. 57 EPC)

## Not an Invention

Patentability is excluded for:

- discoveries, scientific theories and mathematical methods (*as such*)
- aesthetic creations (*as such*)
- schemes, rules and methods for performing mental acts, playing games or doing business, *programs for computers (as such)*
- presentations of information (*as such*)

(Art. 52 (2, 3) EPC)

## Not an Invention

Exclusion of programs for computers (as such)

Note that, while computer programs (= software) *as such* are subject to copyrights and are not patentable (at least in Europe, since algorithms are not technical in nature), *computer-implemented inventions* are patentable, if the invention make a technical contribution, which are implemented through computer programs.

Computer-implemented inventions therefore are not to be confused with “Software Patents”.

## Examples for CII

- Method for digitally filtering data
- + Method for digitally processing images in the form of a data array
- Automated auction method executed on a server computer comprising the steps of ... (business method)
- + X-Ray device with data processing unit for controlling physical parameters of the device
- + Method for enhancing the audio quality in mobile phones
- + Method of using measurements for controlling a device

## Exceptions to Patentability

- Inventions the commercial exploitation of which would be contrary to "*ordre public*" or *morality* (...); (e.g., **land mines**)
- *plant or animal varieties or essentially biological processes* for the production of plants or animals (...) (i.e., **Mendel a. o.**)  
(except microbiological processes or the products thereof)
- methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practiced on the human or animal body (...) (i.e., the work of a **medical practitioner**)  
(except products, in particular substances or compositions, for use in any of these methods)

(Art. 53 EPC)

## Right to a Patent

- The right to a European patent shall belong to the *inventor or his successor* in title. If the inventor is an *employee*, the right to a European patent shall be determined in accordance with the law of the State in which the employee is mainly employed; (...)
- If two or more persons have made an invention independently of each other, the right to a European patent therefore shall belong to the person whose European patent application has the *earliest date of filing*, provided that this first application has been published.

(Art. 60 (1), (2) EPC)



## Term of a Patent

The term of the European patent shall be 20 years from the date of filing of the application.

(Art. 63 EPC)

In Germany, the term of a utility model (“Gebrauchsmuster”), which does not undergo examination, is 10 years from the date of filing.

## Extent of the Protection

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.

(Art. 69 (1) EPC)

## Claims

US 4320756

ion, as  
would  
live on 20  
occur  
would  
rough

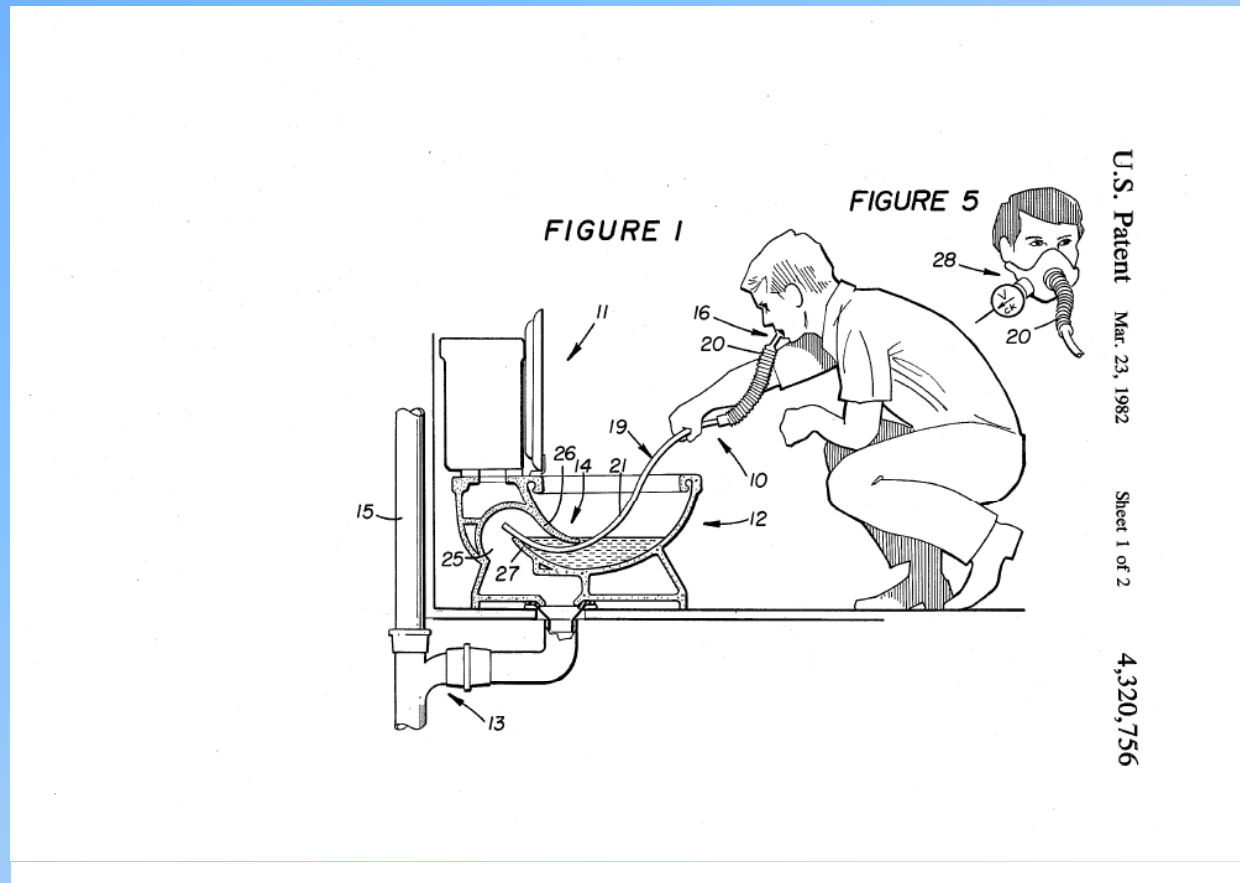
type of breathing member 28 which covers both the mouth and the nose of the user's respiratory intake passages. In addition, and as mentioned above, a check valve 29 could be mounted in the face-mask so that the user can keep the face-mask constantly in sealed contact on his face, both during exhaling and inhaling.

I claim:

- n, it is 25  
toxic  
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of the  
ent 15. 30  
uction  
ber 25  
tically
- breath- 35  
ereun-  
er trap  
se the  
level of
- 40
1. A method for breathing fresh air in a room filled with toxic smoke comprising the steps of inserting a breathing tube through a water trap of a toilet to expose an open end thereof to fresh air from a vent pipe connected to a sewer line of said toilet, and breathing said fresh air through said breathing tube.
  2. The method of claim 1 further comprising the step of flushing said toilet prior to said inserting step.
  3. The method of claim 1 further comprising the step of blowing any water out of said tube subsequent to said inserting step and prior to said breathing step.
  4. The method of claim 1 further comprising the step of filtering the fresh air breathed through said tube.

\* \* \* \* \*

## Drawings



## Product Claims

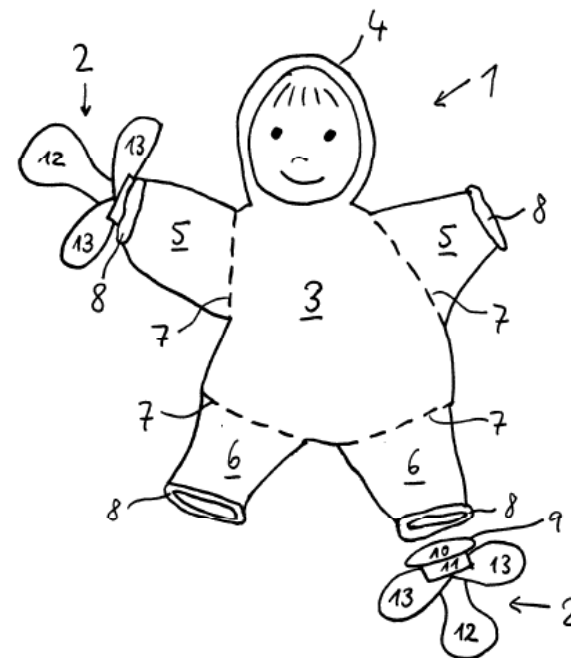
DE 199 61 023 C1

## Patentansprüche

1. Puppe (1) zur Beruhigung von Säuglingen und Kleinkindern im Schlaf, an der ein Schnuller (2) abnehmbar an einer festgelegten Stelle, nämlich einem Außenende einer Extremität (5, 6) der Puppe (1), befestigt ist, **dadurch gekennzeichnet**, daß der Schnuller (2) mit einem Bündchen (8) oder geschlossenem Gummizug in einem textilen Ende der Extremität (5, 6) befestigt ist.
2. Puppe (1) nach Anspruch 1, bei der der Schnuller (2) bezüglich der Extremität (5, 6) mit seinem Saugstück (12) nach außen zeigt.
3. Puppe (1) nach einem der vorstehenden Ansprüche, die zumindest im wesentlichen eine textile Oberfläche aufweist.
4. Puppe (1) nach einem der vorstehenden Ansprüche, bei der der Schnuller (2) auf der dem Saugstück (12) abgewandten Seite des Schnullerschildes (13) einen Zapfen (9) mit einer Hinterschneidung aufweist.

ZEICHNUNGEN SEITE 1

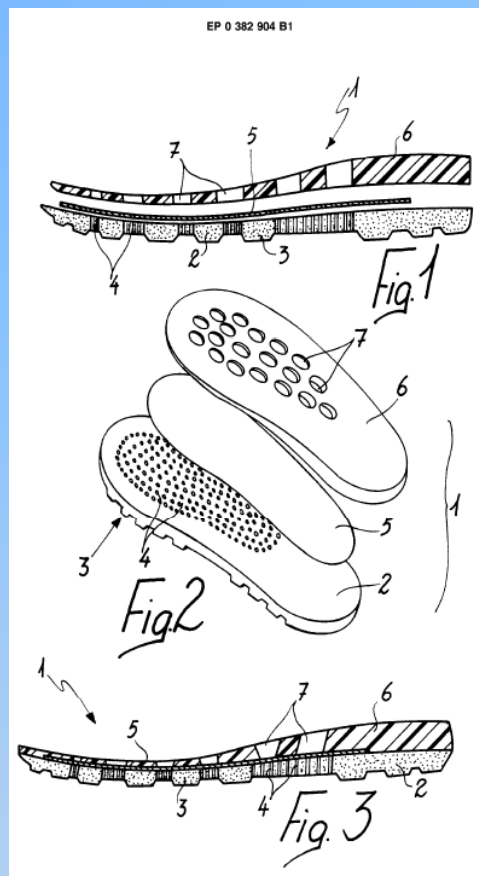
Nummer: DE 199 61 023 C2  
 Int. Cl.?: A 63 H 3/00  
 Veröffentlichungstag: 19. September 2002



## Product Claims

EP 0382904 B1  
 Pol Scarpe Sportive S.r.l.  
 Treviso, IT

=> Geox



### Claims

1. Sole structure for footwear, comprising at least one lower part (2) having a thread (3) and at least one upper part (6) attached to said lower part (2), characterized in that said lower part (2) has a plurality of micro-pores (4) traversing its thickness and is covered by at least one membrane (5) made of microporous waterproof material capable of permitting transpiration, and said upper part (6) is attached to said lower part (2) and has through holes (7) which traverse its thickness.
2. Sole structure according to claim 1, characterized in that said micro-pores extend on the entire extension of said lower part or only on a part thereof.
3. Sole structure according to claim 1, characterized in that the material which constitutes said membrane is preferably of the kind commonly termed "Gore-Tex" or of another equivalent kind of material.
4. Sole structure according to claim 1, characterized in that said through holes are arranged on the entire extension of the upper part or only on a part thereof.

## Contents of a Patent Application

### Request for Grant

Title of Invention

- Name and Address of Applicant
- Possibly the Name of the Inventor
- Other Information

### Description of the Invention

- Technical Field of the Invention
- Background Art
- Invention in terms of technical problem, solution and advantages
- Description of figures

### One or more claims

- Define the matter for which protection is sought
- Features known from prior art
- Features characterizing the invention

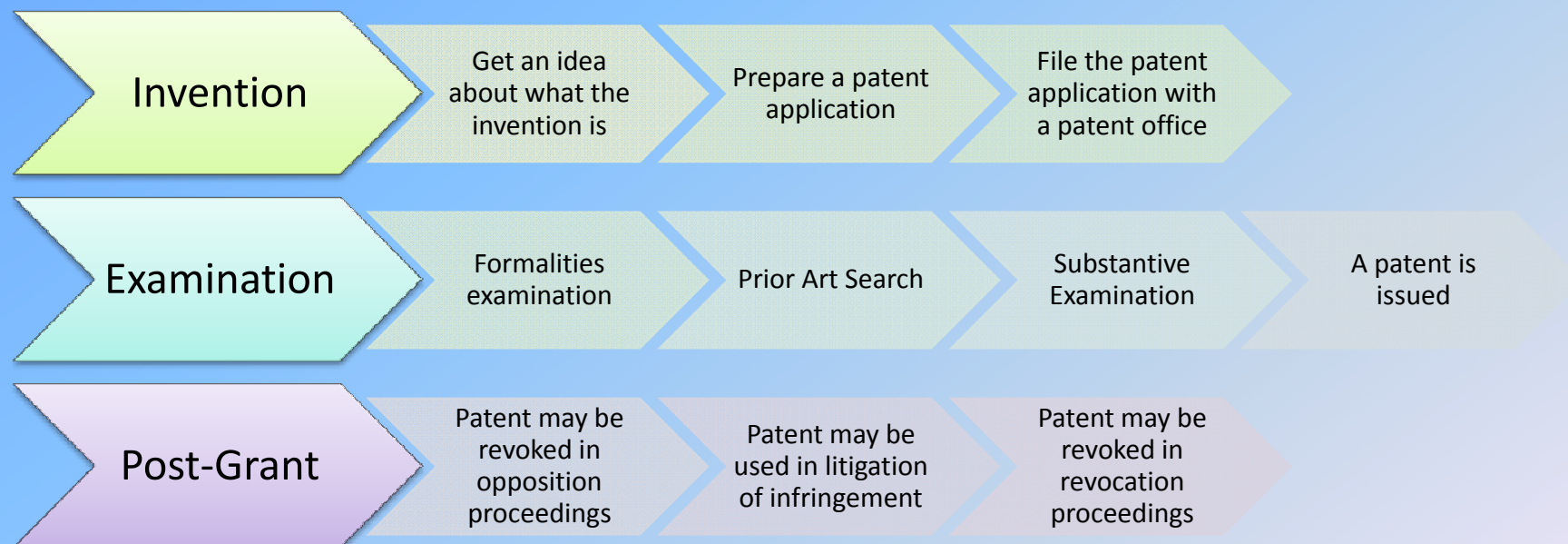
### Drawings

- Only black-white, no gray

### Abstract

- Concise summary of the disclosure, <150 words

## The Life of a Patent Application





## Inventing while employed...

### Fact of life

- The average inventor does not act on his own
  - 80-90% of all inventions are made by employees while doing their job
- Does the employee/inventor get to keep the invention or does the employer have the better right?

## Inventing while employed...



The **inventor** (even, if employed),  
has the right to the patent  
application, protected by patent  
law, based on Art. 14 (1) GG  
(guarantee of property)



The **employer** has the rights to the  
products of his employee's work,  
for which the employee is paid a  
salary



## Inventing while employed...

Every country has its own rules for balancing the interests of employers and employee inventors.

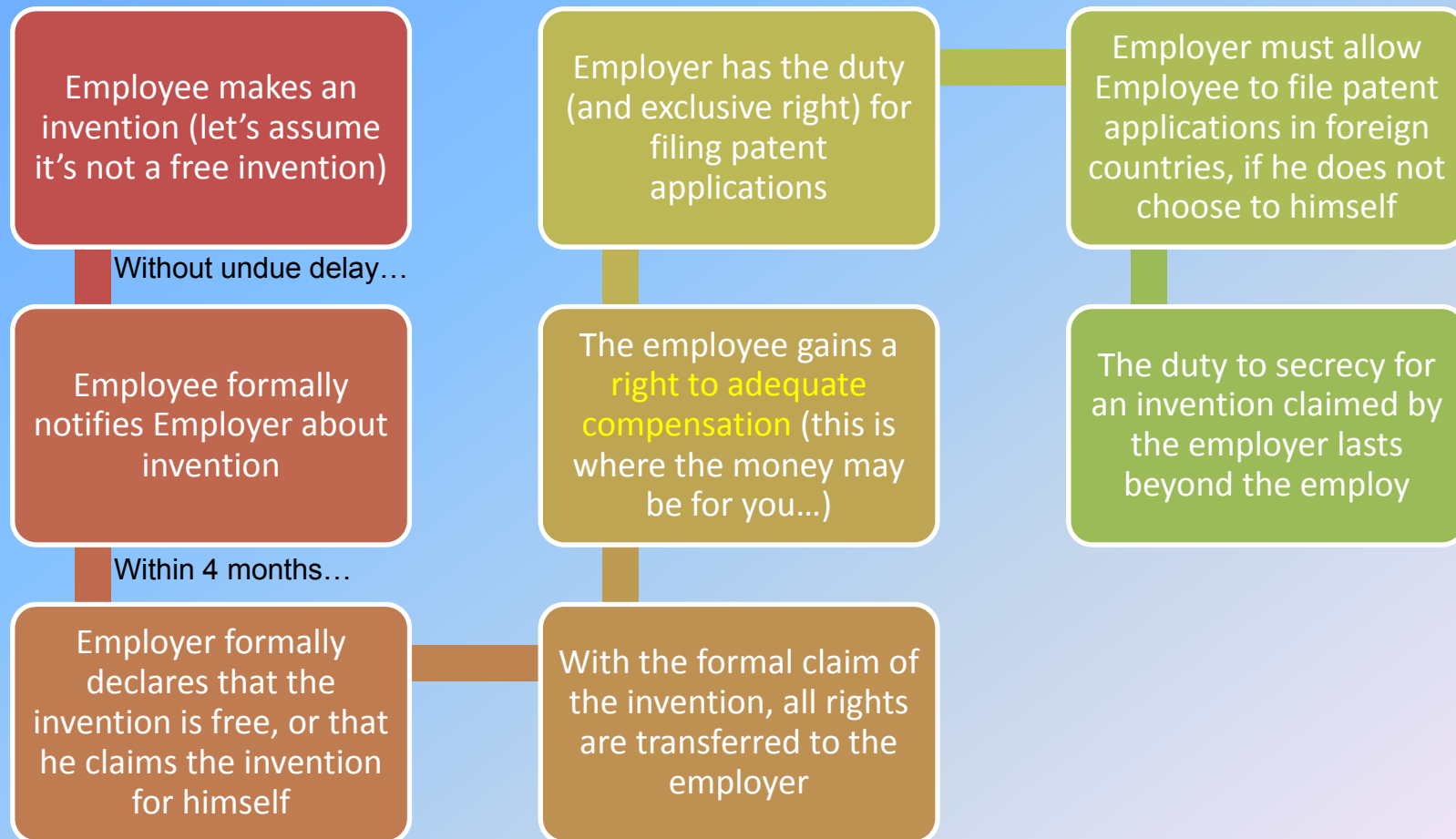
In Germany, this is done in the

*“Arbeitnehmererfindergesetz (ArbErfG)”*,  
which has an additional provision for the case that  
the employer is a University.

## Inventing while employed...

- **Free invention:** If the invention is made completely privately and has nothing to do with the inventor's employed work, the invention is free; the inventor has to notify the employer, but otherwise is free to do what he pleases
- **Not free:** If there is anything relating the invention to the employer, the invention is not free
  - Task given by employer or fulfilling duty within employ
  - Means given by employer
  - Experience from employment used
  - Invention concerns the general field of technology of the employer

## Inventing while employed...



## Inventing while employed... at a university

### § 42 ArbErfG

- The inventor may disclose the invention in the context of his teaching and research, if he notifies his employer 2 months in advance
- The inventor is not obliged to notify his employer of the invention, if he declines to do so in keeping with his right of Freedom of teaching and research
- After formal claim of the invention by the employer, the inventor retains a non-exclusive right to use the invention in the context of his teaching and research
- If the employer exploits the invention commercially, the compensation of the inventor is fixed at **30% (!)** of the earnings

## Inventing while employed... at Ruprecht-Karls-Universität Heidelberg

### **Ansprechpartner für patentrechtliche Fragen:**

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URL: <http://www.unitt.de>