

04 / 03 / 2008

What is my invention? Performing your own preliminary patentability searches

it all starts somewhere

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Introduction to patents



Components of the *da Vinci* Surgical System

Introduction to patents

Results of Search in US Patent Collection db for:

AN/"intuitive surgical": 85 patents.

Hits 1 through 50 out of 85

Final 35 Hits

Jump To

Refine Search

AN/"intuitive surgical"

PAT. NO.	Title
1 7,155,315	Camera referenced control in a minimally invasive surgical apparatus
2 7,125,403	In vivo accessories for minimally invasive robotic surgery
3 7,121,781	Surgical instrument with a universal wrist
4 7,107,090	Devices and methods for presenting and regulating auxiliary information on an image display of performing a surgical procedure
5 7,097,640	Multi-functional surgical control system and switching interface
6 7,087,049	Repositioning and reorientation of master/slave relationship in minimally invasive telesurgery
7 7,083,615	Surgical tool having electrocautery energy supply conductor with inhibited current leakage
8 7,083,571	Medical robotic arm that is attached to an operating table
9 7,074,179	Method and apparatus for performing minimally invasive cardiac procedures
10 7,066,926	Platform link wrist mechanism
11 7,053,752	General purpose distributed operating room control system

Outline

- 1) Introduction to patents
- 2) Tools and Searching Methods
- 3) Identifying the invention
- 4) Infringement
- 5) Examples and exercise

INVENTION

Can it be patented?

Does it infringe another patent?

it all starts somewhere

Outline

- 1) Introduction to patents**
- 2) Tools and Searching Methods
- 3) Identifying the invention
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1) Introduction to Patents

WHAT IS A
PATENT?

WHY PATENT?

it all starts somewhere

1) Introduction to Patents
WHAT IS A PATENT?

An exclusive right to prevent others from making, selling or using an invention.

A state-sanctioned time limited monopoly granted in exchange for public disclosure of the invention.

Patent term is 20 years from the filing date.

To promote investment in research and encourage sharing of information.

Patent must be new and non-obvious

it all starts somewhere

1) Introduction to Patents
WHAT IS A PATENT?

The monopoly protected by a patent is defined by its claims

it all starts somewhere

1) Introduction to Patents
WHAT IS A PATENT?



(12) **United States Patent**
Olson

(10) Patent No.: **US 6,368,227 B1**
(45) Date of Patent: **Apr. 9, 2002**

(54) **METHOD OF SWINGING ON A SWING** 5,413,298 A * 5/1995 Perreault 248/228

(76) Inventor: **Steven Olson**, 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. *Primary Examiner—Kien T. Nguyen*
(74) Attorney, Agent, or Firm—Peter Lowell Olson

(21) Appl. No.: **09/715,198** (57) **ABSTRACT**

(22) Filed: **Nov. 17, 2000**

(51) Int. Cl. **A63G 9/00**

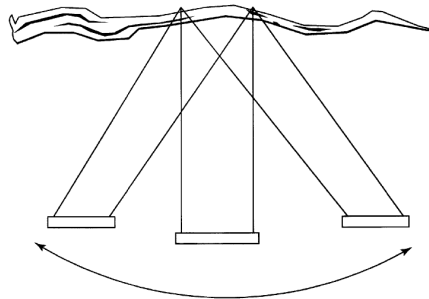
(52) U.S. Cl. **472/118**

(58) Field of Search **472/118, 119, 472/120, 121, 122, 123, 125**

(56) **References Cited** **4 Claims, 3 Drawing Sheets**

U.S. PATENT DOCUMENTS

242,601 A * 6/1881 Clement 472/118



1) Introduction to Patents
WHAT IS A PATENT?

This is an issued patent!

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.

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1) Introduction to Patents

WHY PATENT?

Stop others from infringing activities
(actively or unknowingly)

Generate money by licensing to other(s) the
right to engage in an otherwise
infringing activity

Generate money by selling the patent

Increase the value and profile of the
company/ Basis for creating a
company

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Outline

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- 2) Tools and Searching Methods**
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2) Tools and Searching Methods

See handout

- 1) Patent Offices
- 2) Third Party Searching Tools
- 3) Patent Download Websites

it all starts somewhere

2) Tools and Searching Methods

Patent Search Websites

Patent Offices

Country	Website
Canada	http://strategis.ic.gc.ca/sc_mrksv/cipo/welcome/welcome.html
U.S. (*)	http://www.uspto.gov/index.html
Europe (*)	http://ep.espacenet.com/?locale=EN_ep
WIPO	http://www.wipo.int/pctdb/en/
Australia	http://www.ipaustralia.gov.au/
Japan	http://www.jpo.go.jp/
Directory of IP Offices	http://www.wipo.int/directory/en/urls.jsp

Third Party Searching Tools

Name	Website
Google US patents (*)	http://www.google.com/patents
Delphion (\$)	http://www.delphion.com/

Patent Download Websites

Name	Website
GetThePatent (\$)	http://www.getthepatent.com/Default.dog
Patent Fetcher (*)	http://sughrue.patentfetcher.com/
Pat2Pdf	http://www.pat2pdf.org/

2) Tools and Searching Methods

1) Patent Offices

Source websites for searching of a particular country or region's Patent Office records

Advantages

- Database is based on the official Patent Office records

Disadvantages

- Limited to specific country (except Europe P.O.)
- Some search fields are limited or hard to use
- Basic search engine algorithms (boolean)
- Page-by-page downloading of patents is cumbersome

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2) Tools and Searching Methods

2) Third Party Searching Tools

Proprietary software or websites which allow searching of different country databases

Advantages

- Flexibility and natural language searching e.g. Google patents
- Good litmus test approach
- One source may be able to search multiple databases – one stop shop

Disadvantages

- Possibly additional \$
- Reliant on the source databases
- Broad search results may not give you the answer

it all starts somewhere

2) Tools and Searching Methods

3) Patent Download Websites

Provide full pdf versions of patents

Advantages

- Does not require page-by-page downloading
- Time-saving
- Should be used once searching is done to obtain patents

Disadvantages

- Poor search functionality – only accepts the patent number
- Additional logos added to documents

it all starts somewhere

Outline

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- 3) Identifying the invention**
- Functional Analysis**
 - Structural Analysis**
 - Other Approaches**

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- 3) Identifying the invention**
- Functional Analysis vs. Structural Analysis**

Functional Analysis

- Identifying features by their function rather than structure
- Requires broader thinking
- Allows you to understand the invention
- Better results down the road

Structural Analysis

- Identifying features by their structure rather than function
- Good litmus test - Easier to perform initially
- May not cover equivalents
- May miss important results

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3) Identifying the invention

Step 1: Functional Analysis

- Make a chart
- List all the functions or actions that are happening in the invention
- Use "action" words (gerunds, i.e. words that end in "ing")
- Ask yourself what manipulative steps are occurring
 - e.g. - what is it doing?
 - what are we doing to it?
 - what is happening or going on?
 - how/why is it working?
 - what actions are need to make it work?
 - what are the advantages of the invention
- Write down everything you can think of without considering its importance at this point
- Avoid the use of structural terms such as the names of components – a structural term is a physical item or thing, e.g. a member, a housing, a lever

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3) Identifying the invention

Step 2: Compare functions with the prior art

- For each prior art reference, check off the functions that are and are not found in the references
- If you are not sure, put a question mark beside the function and come back to it later
- After comparing and eliminating, all that you should have remaining are the unique functional features of your invention.

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3) Identifying the invention

Function (e.g. a bicycle)	Prior art A
Rolling/Rotating	
Pedaling	
Leveraging	
Steering	



...s somewhere

3) Identifying the invention

Function (e.g. a bicycle)	Prior art A
Rolling/Rotating	✓
Pedaling	✓
Leveraging	X
Steering	✓



here

3) Identifying the invention

Function (e.g. a bicycle)	Prior art A
Rolling/Rotating	✓
Pedaling	✓
Leveraging	X
Steering	✓

it all starts somewhere

3) Identifying the invention

Other Approaches

- Search by competitor name
 - Keep tabs on what competitors are doing
 - Look for holes in their technology
 - Patent around their technology and "fence in" competitor
- Patent mining
 - Starting your research using a general field of search
 - Look for holes in the prior art
 - Don't exactly know what you are inventing

it all starts somewhere

Outline

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it all starts somewhere

4) Infringement

INVENTION

Can it be patented?

Does it infringe another patent?

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4) Infringement

- A patent excludes others from infringing your invention
- Patent protection must be obtained in each country
- A patent is not a defence to patent infringement
- Infringement generally occurs when each claim element is found in your device or process

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Outline

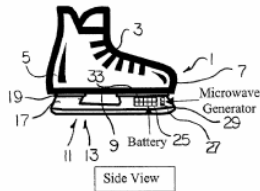
- 1) Introduction to patents
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- 3) Identifying the invention
- 4) Infringement
- 5) Examples and exercise**

it all starts somewhere

5) Examples and Exercise

You have invented:

Common ice skates used in skating have an elongate blade which is arranged to slide along the ice surface. Attempts to minimise the friction between the blade and the ice using heat, with limited success and cumbersome results.



You have designed an ice skate comprising a boot arranged to receive a person's foot, a skate blade assembly and a blade heating arrangement mounted within a blade mounting arrangement. The blade heating arrangement is arranged such that a transistor both controls the current and provides the thermal energy to heat skate blades using a processor and a power source.

A heating arrangement is arranged to use an electronic heating circuit to heat the skate blade such that the heat reduces the coefficient of friction of the blade on an ice surface.

it all starts somewhere

5) Examples and Exercise

Additional features:

- An optional motion sensor arranged to control the heating of the blade such that when the skate is in use, the blade is heated and when the skate is not in use, the heat is off.
- The processor senses the temperature of the skate blade.
- Conveniently there are two distinct heating states controlled by the processor, no heating and full heating.

it all starts somewhere

5) Examples and Exercise

1) You wish to know:

Prospects of patentability

Possibility of infringement

it all starts somewhere

5) Examples and Exercise

Function	Prior art A	Prior art B

it all starts somewhere

5) Examples and Exercise

Function	Prior art A	Prior art B
Heating		
Melting		
Charging (battery)		
Motion Sensing		
Temperature sensing		
Regulating		
On/Off Switching		
Others?		

it all starts somewhere

5) Examples and Exercise

Function	Structure
Heating	Current source
Melting	
Charging (battery)	Charger
Motion Sensing	Motion sensor
Temperature sensing	Temperature sensor
Regulating	Microcontroller
On/Off Switching	Transistor
Others?	

it all starts somewhere

5) Examples and Exercise

The screenshot shows the Canadian Intellectual Property Office (CIPO) website. The search results page displays the following information:

- Search Results** (2008-03-26 08:46:11)
- Search Query: (heating and ice skate blades)
- Query: (heating and ice skate blades)
- 2 documents out of 1,945,895 matched your query. Click on its number to view the details of the document.
- Search Results List:
 - 2468960 HEATING ARRANGEMENT FOR ICE SKATE BLADES 82%
 - 2527739 HEATING ARRANGEMENT FOR ICE SKATE BLADES 82%
- Additional links: Last updated: 2008-03-24, Top of Page, Important Notices.

5) Examples and Exercise

The detailed patent information for CA 2 468 960 is as follows:

- (19)** Canadian Intellectual Property Office / Office de la Propriété Intellectuelle du Canada
- (11)** CA 2 468 960
- (13)** A1
- (40)** 03.07.2003
- (43)** 03.07.2003
- (12)** An Agency of Industry Canada / Un organisme d'Industrie Canada
- (21)** 2 468 960
- (22)** 10.12.2002
- (51)** Int. Cl.: A63C 1/00
- (85)** 01.06.2004
- (86)** PCT/CA02/001898
- (87)** WO03/053529
- (30)** 10/015,221 US 12.12.2001
- (71)** THERMA BLADE INC., 105 Aster Crescent, SHERWOOD PARK, A1 (CA).
- (72)** WEBER, TORY (CA), FURZER, JEREMY (CA).
- (74)** ADE & COMPANY
- (54)** SYSTEME DE CHAUFFAGE POUR LAMES DE PATINS A GLACE / HEATING ARRANGEMENT FOR ICE SKATE BLADES
- (57)** An ice skate comprising a boot arranged to receive a person's foot, a skate blade assembly and a blade heating arrangement mounted within a blade mounting arrangement. The blade heating arrangement is arranged such that a transistor both controls the current and provides the thermal energy to heat skate blades using a processor and a power source.

Fig. 1 View - Side view of ice skate blade and blade holder.

it all starts somewhere

5) Examples and Exercise

Function	Prior art A	Prior art B
Heating	✓	✓
Melting	✓	✓
Charging (battery)	✓	✓
Motion Sensing	✓	✓
Temperature sensing	✓	✓
Regulating	✓	✓
On/Off Switching	✓	✓
Others?	✓	✓

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Concluding Remarks

How do I get a patent?

Invent something!

Identify that you invented something

Avoid prior public disclosure

Don't assume that it's not patentable
or not valuable

Perform preliminary searching

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ridout & maybee LLP

CANADA'S INTELLECTUAL PROPERTY AND TECHNOLOGY LAW FIRM

Plug for IEEE-EMBS

[IEEE Engineering in Medicine and Biology Society](http://www.embsto.org)

www.embsto.org

*Wine and cheese
event held in October
2008*



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Above: Dr. Alistair Glass, Ontario Deputy Minister of Research and Innovation

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*Wine and cheese
event held in October
2008*



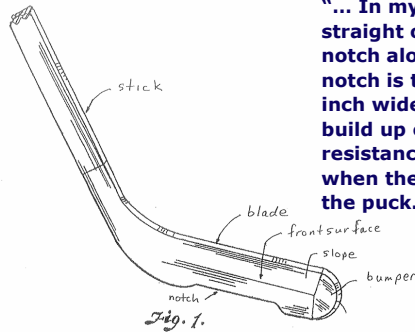
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Practical Exercise

You invent the following:

A hockey stick

"... In my hockey stick, the blade, which can be straight or curved, is formed with a recess or notch along the lower edge of the blade. The notch is typically about 14 inch deep for a three inch wide blade. This notch eliminates the ice build up on the blade and relieves the air resistance and erratic buffeting of the blade when the latter is swung at high speed against the puck."



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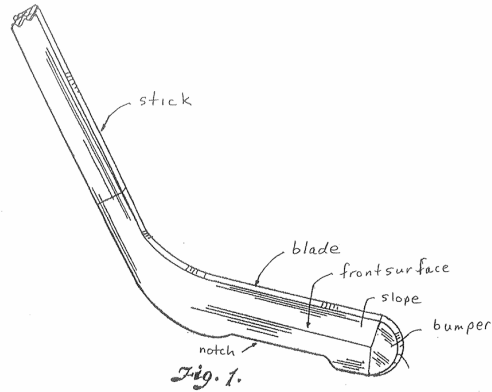
Thank You

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Practical Exercise



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Practical Exercise

You wish to know:

Prospects of patentability

Possibility of infringement in Canada

Exercise:

- 1) Find the most relevant prior art reference.
- 2) Could you manufacture your hockey stick in Canada based on the prior art reference that you found?

it all starts somewhere