



# “Patent Machine Translation – Procter & Gamble Experience”



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*IPWARE SUMMIT 2009*

# AGENDA

- Background
- Systems available and Quality
- Process
- Cost considerations
- Conclusions



Background



# P&G's Billion-Dollar Brands



# Background

- More than 50% of the patent applications published WW are written in Japanese, Korean or Chinese
- Japan is the world's second biggest PCT user
- Domestic Korean applications doubled from 1997 to 2006
- Domestic Taiwan applications increased fivefold from 1997 to 2006
- 300 million people use Cyrillic fonts



## Background – why machine translation ?

- Abstracts of patents may be insufficient
- Many projects do not need 100% translation accuracy
- Machine translation fills this gap
- No need to disturb colleagues
- Cost effective



# Systems available and quality



## Systems available for IP information

- Free MT available on internet
- MT or cross lingual MT available on the various patent offices: free + fee
- External partner providing MT and HT solutions: fee





# What's available from the Patent Offices

- Japanese
- Chinese
- Korean
- European languages



# Patent Abstract of Japan: PAJ via the JPO digital Library

[http://www.ipdl.inpit.go.jp/homepg\\_e.ipdl](http://www.ipdl.inpit.go.jp/homepg_e.ipdl)

Japan

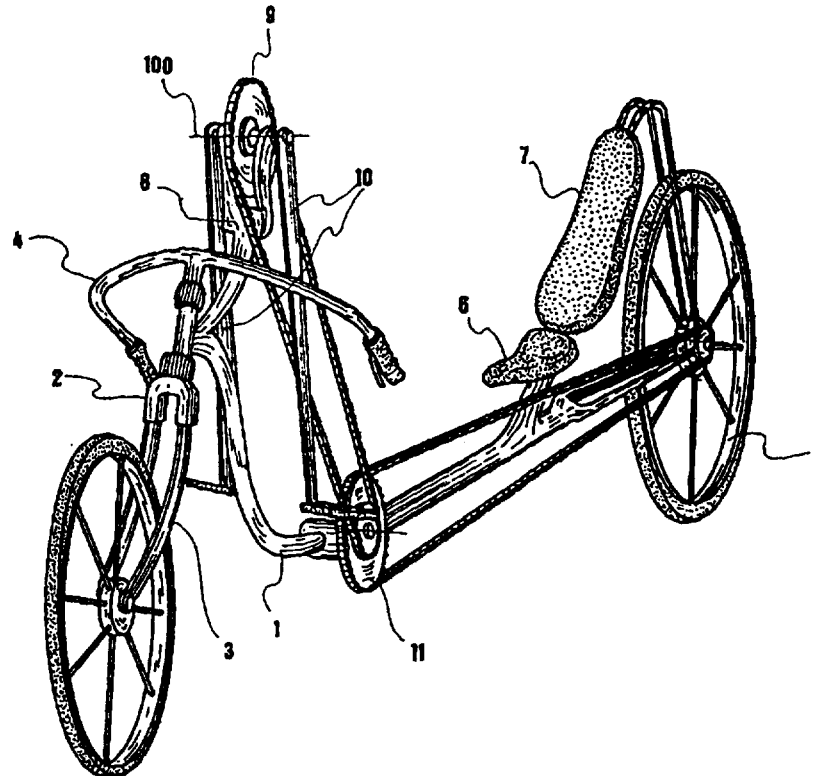
- Human translated: Japanese patent abstracts since 1976
- Machine translated full text from 1993 on
- Free



# Japan – general subject patents

Japan

**JP 2002-518253:**



**Equivalent WO 99/67124**



# Japan – general subject patents

Japan

**JP 2002-518253: WO 99/67124**

Claim 1 (from WO):

1. A human propulsion vehicle with at least two wheels (3, 5) comprising a first frame (1) , an handlebars (4) rotatably mounted onto the first frame (1) and connected with at least one wheel (3) , a second frame (8) integrally connected to the first frame (1) at the front portion thereof and above to said handlebars (4), and resting means (6,7) for the person...



# Japan – general subject patents

Japan

**JP 2002-518253: WO 99/67124**

Claim 1 (from JP):

[Claim 1] Human power promotion vehicles comprising provided with at least two wheels (3, 5):

The 1st frame (1).

A handle bar (4) with which said 1st frame (1) was equipped pivotable and which was connected to at least one wheel (3).

The 2nd frame (8) really connected to said 1st frame (1) in anterior part in the upper part of said handle bar (4).

A seating means by which people ride (6, 7).



# Japan – chemical patents

## WO 2007/36715; JP 2009-512635

Japan

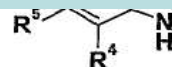
Inside of [type,  
R4 is fluoro.;

R5 is chosen from C1-6 ARUKOKISHI replaced with C1-6 alkyl and C1-6 alkoxy \*\* and one piece, or the fluorine atom beyond it replaced with hydrogen, halogen, cyano, C1-6 alkyl, one piece, or the fluorine atom beyond it.;

The C1-6 alkyl by which R6 is replaced with halogen, cyano, C1-6 alkyl, one piece, or the fluorine atom beyond it, It is chosen from C1-6 ARUKOKISHI replaced with C3-6 cycloalkyl and C1-6 alkoxy \*\* and one piece, or the fluorine atom beyond it replaced with C3-6 cycloalkyl, one piece, or the fluorine atom beyond it,

] whose Q is hydrogen or C1-6 alkyl

The compound come out of and shown, its salt, or solvate.



wherein:

R<sup>4</sup> is fluoro;

R<sup>5</sup> is selected from hydrogen, halogen, cyano, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyl substituted with one or more fluorine atoms, C<sub>1-6</sub> alkoxy, and C<sub>1-6</sub> alkoxy substituted with one or more fluorine atoms;

R<sup>6</sup> is selected from halogen, cyano, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyl substituted with one or more fluorine atoms, C<sub>3-6</sub>cycloalkyl, C<sub>3-6</sub>cycloalkyl substituted with one or more fluorine atoms, C<sub>1-6</sub> alkoxy and C<sub>1-6</sub> alkoxy substituted with one or more fluorine atoms, and

Q is hydrogen or C<sub>1-6</sub>alkyl.

2. A compound according to claim 1, wherein R<sup>5</sup> is selected from hydrogen, chloro

70 of 81

# Summary

- \*\*\*\* = un-translated word
- Basic sentence structure are well translated
- Complex sentences, or chemical terms, are less well translated
- Transliteration of some technical terms
- No distinction between singular and plural forms



## Patent search at the Chinese Patent Office (SIPO), China Patent Database (CNPAT), China Intellectual Property Net -CNIPR

<http://english.cnipr.com/enpat/>, [http://www.sipo.gov.cn/sipo\\_English/](http://www.sipo.gov.cn/sipo_English/),  
<http://search.cnpat.com.cn/Search/EN/>,

- Human: English abstracts for patents
- MT: utility models from 1985 on
- TEST: MT - Chinese – English of the full text patent
- Free

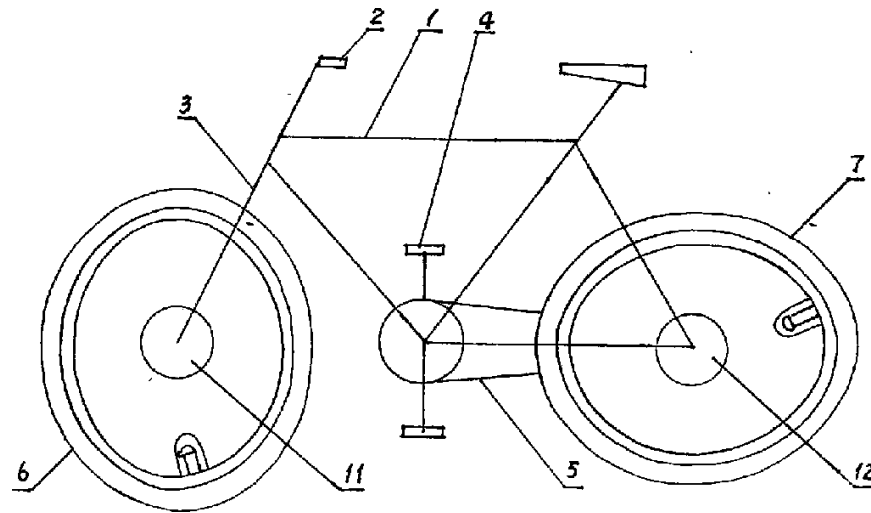




# Chinese Patent Office: CN only

CN 201201675

Application No. CN 2008-20063564



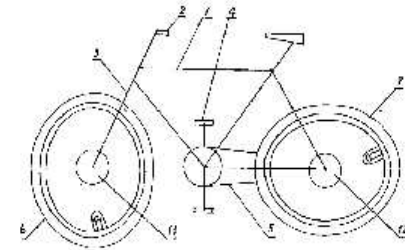
# CNIPR site: CN only

China

Application Number: 200820063564

Granted [img](#) [Claims](#) [Description](#) [Favorite](#) [Download<IMG>](#)

Bibliographic Data:	
Title: [MT] It is not a wheel health care amusement bicycle of perfect circle	
Application Number: 200820063564	Application Date: 2008.05.28
Publication Number: CN201201675	Publication Date: 2009.03.04
IPC: B62K3/00(2006.01)	
Applicant: [MT] Chen Tongxing	
Inventor: [MT] Chen Tongxing	
Priority Information:	
<b>Abstract:</b> [MT] The utility model refers to the field of 'cycles'. It is not a wheel health care amusement bicycle of perfect circle, have frame, handlebar, front fork, foot pedal, drive chain and front and back wheel, its characteristic is: It is not a perfect circle that the at least one wheel is taken the form of. In vogue as riding, will produce and rock with laughter, have and make, is like the wonderful feeling that rides a horse sometimes sometimes, achieve the result of the massage viscera, very favorable health care of vital organs of the human body at the same time. This utility model need only do the cricoid deformation change in the tradition technically.	
Legal Status:	
Legal Status Publication Date: 2009.03.04	
Legal Status: granted	



## Chinese Patent Office, CNIPR: Assignee name

- **Akzo Nobel: 647 records**
- **Akezuo Nobel: 21 additional records**



# Chinese Patent Office, CNIPR: WO2007/36715; CN 101321736

China

Patent Information Service Platform - Microsoft Internet Explorer

Address <http://english.cnipr.com/enpat/search/translation.do?parm=162815721c9f18c1190c186c1bed1adf183a19261ad91be11a801c4805792e231f5221fa2337209521c42070220522172032208e2265228926282584258526cb27a6;> Go Links

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### Claims

1. Shut things with Formula (I) compound or its salt or solvent:

Among them:

R<sup>4</sup> It is Fluorine;

R<sup>5</sup> Selected from hydrogen, halogen, cyanogen base, C<sub>1-6</sub> Alkyl, one or more C that Fluorine atom replaces <sub>1-6</sub> Alkyl, C<sub>1-6</sub> Alkane oxygen base and one or more C that Fluorine atom replaces <sub>1-6</sub> Alkane oxygen base;

R<sup>6</sup> Selected from halogen, cyanogen base, C<sub>1-6</sub> Alkyl, one or more C that Fluorine atom replaces <sub>1-6</sub> Alkyl, C<sub>3-6</sub> Alkyl of ring, one or more C that Fluorine atom replaces <sub>3-6</sub> Alkyl of ring, C<sub>1-6</sub> Alkane oxygen base and one or more C that Fluorine atom replaces <sub>1-6</sub> Alkane oxygen base, and

Q is hydrogen or C<sub>1-6</sub> Alkyl.

2. According to compound of Claim 1, among them R<sup>5</sup> Selected from hydrogen, chlorine, bromine, Fluorine, C<sub>1-4</sub> Alkyl, one or more C that Fluorine atom replaces <sub>1-4</sub> Alkyl and C<sub>1-4</sub> Alkane oxygen base.

3. According to compound of Claim 1 or 2, among them R<sup>6</sup> Selected from chlorine, bromine, Fluorine, methyl, B base, different third base, base of the ring third, methoxy, three Fluorine methoxy and three Fluorine methyl.

4. According to compound of any one in Claim 1-3, among them Q is selected from hydrogen and methyl.

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## Chinese Patent Office: summary

- Full-text translation very good on chemical names
- Structure of sentences
- Transliteration of assignee names



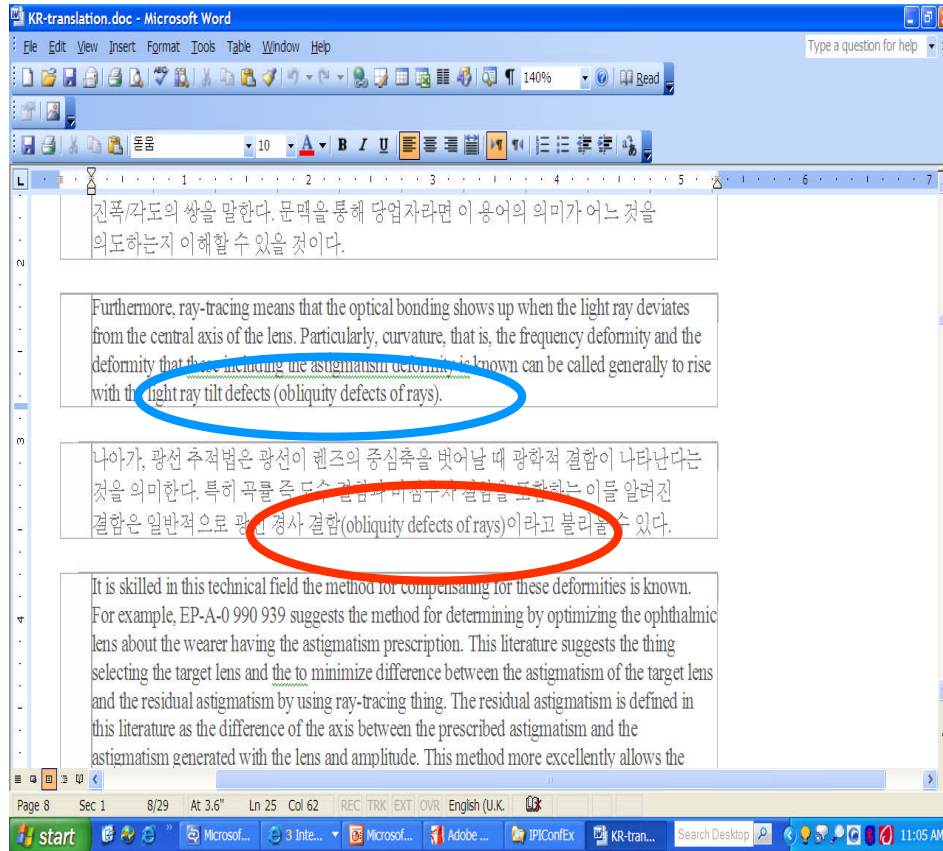
# Korean Patent Office: KIPRIS

<http://eng.kipris.or.kr/>

- English abstracts since 1979
- Full-text cross-lingual patent retrieval tool
- Payment required
- MT of full-text from 1983 onwards

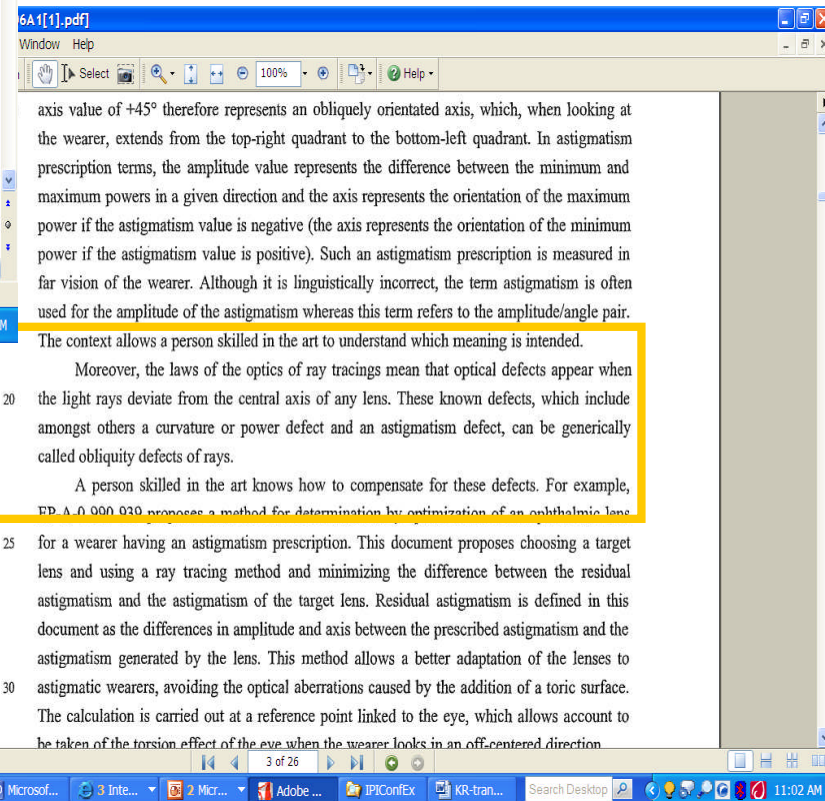


Korea



KIPRIS MT of the KR2008-0097385

WO2007/069006



## Korean Patent Office - summary

- “\*\*\*” = un-translated word
- Order of the word in a sentence
- A lot of stop words are missing
- Translation of the technical terms
- EPO now offering MT Korean documents





# Process



# Process

- Target audience – R&D, information professionals
- Training- web-based
  - self-help training
- Part of end-user training given by Information professionals



Cost



## Cost considerations

- Machine translation or human translation part of the decision-making process of the end-user
- No centralization of translation handling



# Conclusions



# Conclusions

- Very good tools to help with understanding, and to get an overview of the technology
- Quality of machine translation variable between systems
- Develop further full-text capabilities for English machine translated text



Questions ?????



Touching lives, improving life. *P&G*<sup>TM</sup>

