



Проведение патентного поиска с помощью БД ЕПВ Espacenet



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*Отдел развития информационных ресурсов,
классификационных систем и стандартов в
области интеллектуальной собственности*

БД Espacenet

- **Общие сведения**
- **Доступ**
- **Виды и возможности поиска**
- **Результаты поиска**
- **Просмотр документов**
- **Справка**

БД Espacenet - общие сведения

Общедоступная патентная база данных Европейского патентного ведомства (<http://www.epo.org>)

Создана в 1998г

The screenshot shows the homepage of the European Patent Office (EPO) website. The URL in the browser address bar is <https://www.epo.org/index.html>. The page features a navigation menu with options like Home, Searching for patents, Applying for a patent, Law & practice, News & issues, Learning & events, and About us. A search bar is located at the top right. The main content area includes a sidebar with a list of services: Searching for patents, European Patent Register, European Publication Office, Espacenet - patent search (highlighted with a red circle), and Patent Translate. Other sections include a featured article about Adnane Remmal, a 'Meet the inventor' button, and various news items like 'European Inventor Award', 'Annual Report 2016', and 'Examiner Jobs'.

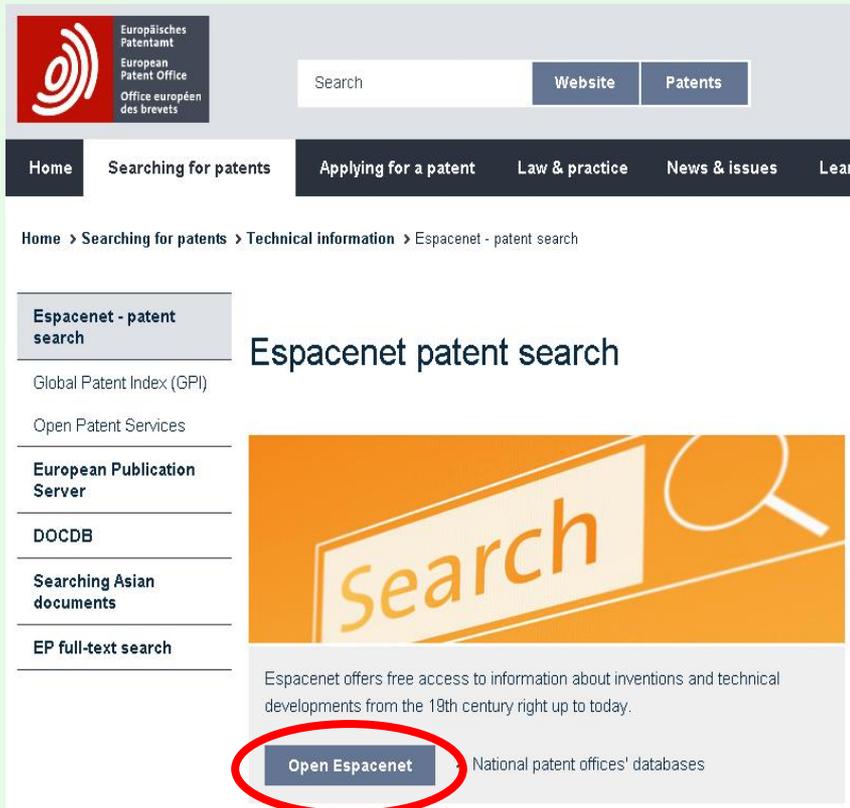
Переход в Espacenet

- <http://www.epo.org> → Espacenet – patent search → Open Espacenet
- www.fips.ru/ → Ссылки → Зарубежные БД → Espacenet

Переход в Espacenet

<http://www.epo.org>

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European Patent Office
Office européen des brevets

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Home > Searching for patents > Technical information > Espacenet - patent search

Espacenet - patent search

Global Patent Index (GPI)

Open Patent Services

European Publication Server

DOCDB

Searching Asian documents

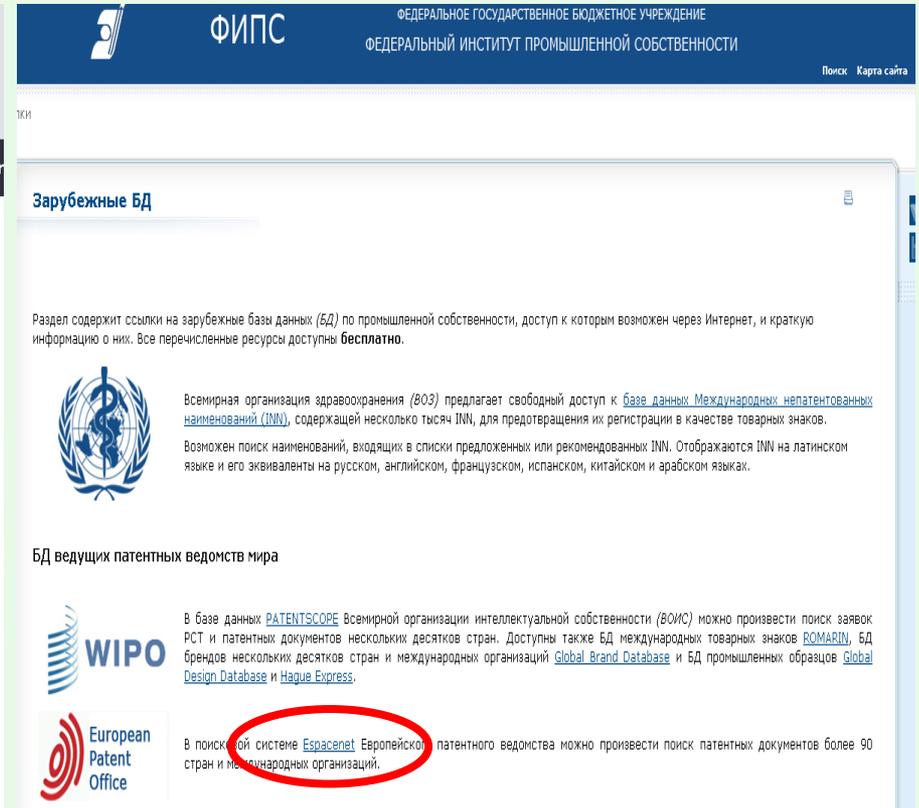
EP full-text search

Espacenet patent search



Espacenet offers free access to information about inventions and technical developments from the 19th century right up to today.

Open Espacenet National patent offices' databases




 ФИПС
ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ БЮДЖЕТНОЕ УЧРЕЖДЕНИЕ
ФЕДЕРАЛЬНЫЙ ИНСТИТУТ ПРОМЫШЛЕННОЙ СОБСТВЕННОСТИ

Поиск Карта сайта

Зарубежные БД

Раздел содержит ссылки на зарубежные базы данных (БД) по промышленной собственности, доступ к которым возможен через Интернет, и краткую информацию о них. Все перечисленные ресурсы доступны **бесплатно**.


 Всемирная организация здравоохранения (ВОЗ) предлагает свободный доступ к [базе данных Международных непатентованных наименований \(INN\)](#), содержащей несколько тысяч INN, для предотвращения их регистрации в качестве товарных знаков. Возможен поиск наименований, входящих в списки предложенных или рекомендованных INN. Отображаются INN на латинском языке и его эквиваленты на русском, английском, французском, испанском, китайском и арабском языках.

БД ведущих патентных ведомств мира


 В базе данных [PATENTSCOPE](#) Всемирной организации интеллектуальной собственности (ВОИС) можно произвести поиск заявок РСТ и патентных документов нескольких десятков стран. Доступны также БД международных товарных знаков [ROMARIN](#), БД брендов нескольких десятков стран и международных организаций [Global Brand Database](#) и БД промышленных образцов [Global Design Database](#) и [Hague Express](#).


 В поисковой системе [Espacenet](#) Европейского патентного ведомства можно произвести поиск патентных документов более 90 стран и международных организаций.

Наполнение Espacenet

- Более 95 млн. документов из более чем 90 стран и международных организаций
- Основа – минимум РСТ
- [Help](#) → [The worldwide patent database](#)

Availability of the PCT minimum documentation in the worldwide database

Country	Facsimiles from	Abstracts from	Cooperative Patent Classification (CPC)
CH	1888, from CH1 onwards	1970	1888
DE	1877, from DE1 onwards	1970	1877, from DE1 onwards
EP	1978, from EP1 onwards	1978	1978
FR	1900	1970	1902
GB	1859	1893	1859
US	1836, from US1 onwards	1970	1836, from US1 onwards
WO	1978	1978	1978

Latest updates to the database

You will find up-to-date information on the EPO website under [Latest Bibliographic coverage](#) and [Latest full-text coverage](#). Both lists are updated daily.

Наполнение Espacenet (продолжение)

- Документы, не входящие в «минимум РСТ», часто не имеют ни реферата, ни даже полной библиографии
- В Espacenet включена и непатентная литература (НПЛ или NPL). Ссылкам на НПЛ присвоены номера с двубуквенным кодом ХР, например: ХР1 или ХР000123456
- Поиск документов ХР по автору и словам невозможен
- ХР могут быть найдены только по СРС или номеру
- Нельзя ограничить поиск только НПЛ (т.е. по коду ХР)

Поисковые массивы

- **Worldwide** - вся вышеупомянутая коллекция патентных документов разных стран мира (в очень разных объемах представления информации).
- **Worldwide EN** – коллекция патентных документов, опубликованных на английском языке, предоставляющая возможность полнотекстового поиска на английском языке. Коллекция отобрана из документов БД Worldwide, имеющих тексты на английском языке.
- **Worldwide FR** - коллекция патентных документов, опубликованных на французском языке, предоставляющая возможность полнотекстового поиска на французском языке. Коллекция отобрана из документов БД Worldwide, имеющих тексты на французском языке.
- **Worldwide DE** - коллекция патентных документов, опубликованных на немецком языке, предоставляющая возможность полнотекстового поиска на немецком языке. Коллекция отобрана из документов БД Worldwide, имеющих тексты на немецком языке.

Виды поиска

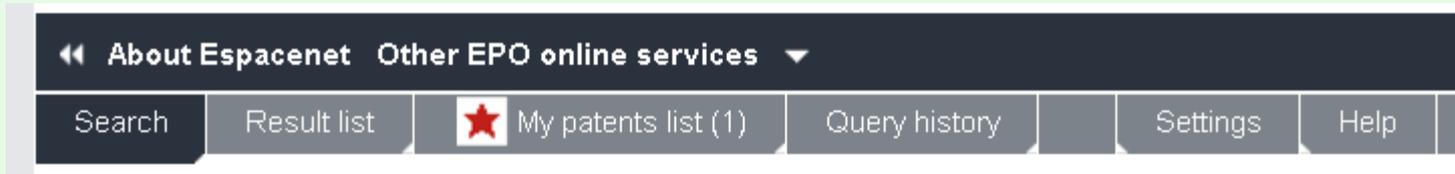
- **Smart search** - «Умный поиск», совпадает со стартовой страницей, поиск с возможностью использования кодов полей
- **Advanced search** - «Расширенный поиск», форма для ввода поисковых терминов содержит 10 полей, с 2016г в трех массивах позволяет проводить полнотекстовый поиск
- **Classification search** - просмотр или поиск в классификационной системе «**СРС**» - Совместной патентной классификации ЕПВ и США, в несколько раз более дробной, чем МПК

Smart search

Advanced search

Classification search

Постоянное горизонтальное МЕНЮ



- **Search** - Возврат в пустую поисковую форму
- **Result list** - Открытие списка документов найденных в результате последнего поиска
- **My patents list** - Из списка результатов можно отобразить документы (до 100 документов) и хранить их в «Моем списке»
- **Query history** - «История запросов», в которой хранятся последние 10, 25 или 50 (по выбору) запросов, если включена соответствующая установка (**Settings**)
- **Settings** – Позволяет включить/выключить возможность сохранения истории запросов, всплывающие определения рубрик классификации и подсветку поисковых терминов в найденных документах
- **Help** - Справка

Advanced search

(Расширенный поиск)

Smart search
Advanced search
 Classification search

Quick help

- [How many search terms can I enter per field?](#)
- [How do I enter words from the title or abstract?](#)
- [How do I enter words from the description or claims?](#)
- [Can I use truncation/wildcards?](#)
- [How do I enter publication, application, priority and NPL reference numbers?](#)
- [How do I enter the names of persons and organisations?](#)
- [What is the difference between the IPC and the CPC?](#)
- [What formats can I use for the publication date?](#)
- [How do I enter a date range for a publication date search?](#)
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Related links

Select the collection you want to search in

Enter your search terms - CTRL-ENTER expands the field you are in

Enter keywords in English

Title:

Title or abstract:

Enter numbers with or without country code

Publication number:

Application number:

Priority number:

Enter one or more dates or date ranges

Publication date:

Enter name of one or more persons/organisations

Applicant(s):

Inventor(s):

Enter one or more classification symbols

CPC

IPC

Advanced search (Расширенный поиск)

10 поисковых полей:

- **ключевые слова из названия («Keyword(s) in title»);**
- **ключевые слова из названия и/или реферата («Keyword(s) in title or abstract»);**
- **номер публикации («Publication number»);**
- **регистрационный номер заявки («Application number»);**
- **номер приоритетной заявки («Priority number»);**
- **дата публикации («Publication date»);**
- **заявитель («Applicant(s)»);**
- **изобретатель («Inventor(s)»);**
- **Совместная патентная классификация («CPC Cooperation Patent Classification» с 1 января 2013 года);**
- **Международная патентная классификация («International Patent Classification (IPC)»).**

Логические операторы

- Три логических оператора – **AND** (И), **OR** (ИЛИ) и **NOT** (НЕ) (кроме Smart search, где добавлены операторы близости и сравнения)
- Оператором по умолчанию в текстовых полях является оператор **AND**
- Все номера (подачи заявки, приоритета и публикации) и даты публикации – по умолчанию объединяются оператором **OR** (ИЛИ)

Поисковые возможности и ограничения Espacenet

- В одно поисковое поле может быть введено не более 10 терминов
- В расширенном виде поиска (Advanced search) на все 10 поисковых полей для составления запроса может быть использовано не более 20 поисковых терминов с 19 логическими операторами.
- Ключевые слова, вводимые для поиска в поле реферат, должны быть только на английском языке
- Нельзя использовать термины, определенные, как «стоп - слова» (**FOR, WITH, THE, BUT, AND, OF, ANY** и т.п.)
- Регистр букв (строчные или заглавные) может быть любым, при этом будут найдены эти слова, записанные как строчными, так и заглавными буквами
- При заключении группы слов в кавычки производится поиск «как задано», т.е. заданных слов рядом в заданном порядке (в виде «фразы»);

Advanced search (Расширенный поиск)

Advanced search

Select the collection you want to search in

Enter your search terms - CTRL-ENTER expands the field you are in

Enter keywords

Title:

Title or abstract:

Enter numbers with or without country code

Publication number:

Application number:

Priority number:

Enter one or more dates or date ranges

Publication date:

Enter name of one or more persons/organisations

Applicant(s):

Inventor(s):

Enter one or more classification symbols

CPC

IPC

Усечения и подстановки

- Только в текстовых полях в конце слов
- Подстановки «?» и «#»
(не менее 2-х букв в начале слова)
- Усечение *
(не менее 3-х букв в начале слова)

Усечения и подстановки

?

1 или 0 символов `ozon?` `ozon ozone`

#

1 символ `ozon# ozone`

*

любое количество символов `ozon*` `ozone`
`ozonation ozonide ozonize ozonized`
`ozonometer`

Форматы записи номеров и дат

- Формат записи регистрационных номеров заявок (в том числе приоритетных) - **ССГГГГnnnnnnnn**, где **СС** - двухбуквенный код страны, **ГГГГ** - год, **nnnnnnnn** – шестизначный или семизначный регистрационный номер заявки (если знаков в номере заявки меньше семи, то лучше дополнять его предшествующими нулями до 7). Номер записывается без пробелов. Например, GB1995**000**8026.
- Формат ввода номера публикации: **ССnnnnnnnnnn**, где **СС** - двухбуквенный код страны, **nnnnnnnnnn** - номер, состоящий из различного (от 1 до 10) количества знаков. Не следует делать пробел между двухбуквенным кодом и цифрами.
Пример: **FR4231348, CH218103.**
- Формат ввода дат: **ГГГГ** или **ГГГГММ** или **ГГГГММДД**. Допускается **ДД/ММ/ГГГГ**.

Задание диапазона дат

Поиск документов внутри задаваемого диапазона дат осуществляется указанием начальной и конечной дат интервала. Задать интервал дат можно несколькими способами:

- даты, разделенные пробелом, например "**2000 2001**", как в кавычках, так и без них;
 - даты, разделенные двоеточием, например: **2000:2001** (только в Advanced search);
 - даты, разделенные запятой, например **2000,2001**;
- Во всех этих случаях система будет искать публикации, осуществленные между **01.01.2000** и **31.12.2001**, включая эти даты.

Формат записи рубрик классификаций

- A01C7/08 - без пробелов
- «Авто-усечение» (**нельзя** ставить^{*}) на любом уровне МПК: H, B62, B62J, A47D15, B60N2/28, A47D15/00 AND B60N2/28
- Но в **СРС** при поиске по более дробным рубрикам, чем подгруппа МПК, для усечения ставится знак усечения: A47D15/00^{*} или используется оператор *low*

Формат имен и названий

- Стандартный формат: сначала фамилия (Surname или Last name), а затем имя (First name).
- Если неясно, изобретателю или заявителю принадлежит это имя, используйте для поиска **Smart search**.
- Очень трудно искать по фирмам, т.к. их названия не стандартизированы. Пробуйте все возможные варианты написания названий, их частей, транслитерации, аббревиатур и т.п.

Smart search (УМНЫЙ ПОИСК)

- Ввод запроса осуществляется в одну поисковую строку
- Запросы могут вводиться как с кодами (идентификаторами) полей, так и без них.
- Основные типы полей:
 - pd (дата публикации),
 - cl (классификация),
 - num (номер),
 - ia (изобретатель и заявитель),
 - txt (код по умолчанию)
- Поисковые поля можно соединять оператором OR (но по умолчанию, т.е. без его ввода, используется AND)
- Каждый тип поля (кроме даты публикации) подразделяется ещё на несколько более конкретных полей.

Поля в Smart search

Код поля	Описание	Примеры
in	изобретатель	in=smith
pa	заявитель	pa=siemens
ti	название	ti="mouse trap"
ab	реферат	ab="mouse trap"
pr	номер приоритетной заявки	pr=ep20050104792
pn	номер публикации	pn=ep1000000
ap	номер заявки	ap=jp19890234567
pd	дата публикации	pd=20080107 или pd="07/01/2008 или pd=07/01/2008
ct	цитата/ цитируемый документ	ct=ep1000000
cpc	СПК	cpc="A61K31/13"
ftxt, desc, claims	полный текст, описание, формула	ftxt=microscope, desc=lens, claims=laser
ia	изобретатель и заявитель	ia=Apple или ia="Ries Klaus"
ta	название и реферат	ta="laser printer"
txt	название, реферат, изобретатель и заявитель	txt=microscope lens
num	номер публикации, заявки или приоритетной заявки	num=ep1000000
ipc	МПК	ipc=A63B49/08
cl	МПК и СПК	cl=C10J3

Дополнительные операторы в Smart search

Операторы сравнения

! Если внутри какого-либо поля в Smart search нужно найти несколько терминов, они должны быть заключены в кавычки

- = (равно); Будет найдено точное соответствие
например: **pa=Siemens** или **ti="optical fiber"**
- **all** (все); Все введенные термины (несколько терминов – обязательно в кавычках) будут найдены в заданном поле, но их порядок в документе может не соответствовать порядку их записи в запросе:
ti all "paint brush hair"
- **any** (любой); Будут найдены документы, содержащие по меньшей мере один из терминов, введенных в кавычках в заданном поле.
Пример: **ti any "motor engine"**

Дополнительные операторы в Smart search

Операторы близости (proximity – близость)

- **T1 prox/distance<n T2** Пример: **mouse prox/distance<3 trap**
(**мышь prox/distance<3 ловушка**)
Будут найдены патенты, где слова **mouse** и **trap** находятся в текстовых полях (код поля txt) на расстоянии не более 3 (трёх) слов между ними в заданном порядке (в порядке написания).
- **T1 prox/unit=sentence T2** Пример: **mouse prox/unit=sentence trap**
Будут найдены патенты, где слова **mouse** и **trap** встречаются в одном и том же предложении в текстовых полях.
- **T1 prox/unit=paragraph T2** Пример: **mouse prox/unit=paragraph trap**
Будут найдены патенты, где слова **mouse** и **trap** встречаются в одном и том же параграфе (абзаце) в текстовых полях.
- **T1 prox/ordered T2** Пример: **ia=Apple prox/ordered ia=Corp**
Будут найдены документы, содержащие в указанном порядке (в заданном поле) Apple Corp, а не Corp Apple.

Работа с результатами поиска

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[Refine search](#) → Results page 1

[Smart search](#)
[Advanced search](#)
[Classification search](#)

[Quick help](#)

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Result list

Select all (1/25)
 Compact
 [Export \(CSV|XLS\)](#)
 [Download covers](#)
 [Print](#)

Approximately **240** results found in the Worldwide database for:
bicycle frame motor in the title or abstract AND **2015** as the publication date

Sort by Sort order [Sort](#)

1. **AUTONOMOUS PERSONAL SERVICE MOBILE ROBOT**

Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
SHIVAROV NAYDEN [BG]	SHIVAROV NAYDEN [BG]			BG2056 (U1) 2015-05-29	2014-01-17

2. **GEAR MOTOR SYSTEM FOR VEHICLES WITH TWO OR THREE WHEELS, INSTALLABLE COAXIALLY WITH THE BOTTOM BRACKET OF THE VEHICLE AND VEHICLE COMPRISING SAID SYSTEM**

Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
SPAGGIARI MATTEO [IT]	MS REI S R L [IT]	B62M11/145 B62M6/55 H02K7/116	B60K1/00 B62M11/14 B62M6/55 (+1)	CA2933783 (A1) 2015-06-25	2013-12-18

3. **MOUNTING SYSTEM FOR ATTACHING AN ELECTRIC DRIVE SYSTEM TO BICYCLE**

Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
PREINING MARIO [AT] PREINING DANIEL [AT]	EGO SPORTS GMBH [AT]	B62K13/00 B62K19/30 B62M6/40 (+3)	B62K13/00 B62M6/40 B62M6/55	CA2920000 (A1) 2015-02-05	2013-08-02

4. **Front chain -picking device of bicycle**

Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
YANG YAOMING LIN YINFAN	J D COMPONENTS CO LTD		B62M9/31	CN204916040 (U) 2015-12-30	2015-04-27

5. **Electric bicycle frame**

Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
YANG MAOXIU	TIANJIN JINLUN TIANDA NUMERICAL		B62K19/30	CN204916004 (U) 2015-09-01	2015-09-01

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★ Inventor: SHIVAR NAYDE

2. GEAR OF THE VEHI

★ Inventor: SPAGG MATTE

3. MOUNT

★ Inventor: PREINI MARIO PREINI DANIEL [AT] (+3)

4. Front chain -picking device of **bicycle**

★ Inventor: YANG YAOMING LIN YINFAN Applicant: J D COMPONENTS CO LTD

Publication info:
BG2056 (U1)
2015-05-29

Priority date:
2014-01-17

Publication info:
CA2933783 (A1)
2015-06-25

Priority date:
2013-12-18

Publication info:
CA2920000 (A1)
2015-02-05

Priority date:
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Publication info:
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2015-12-30

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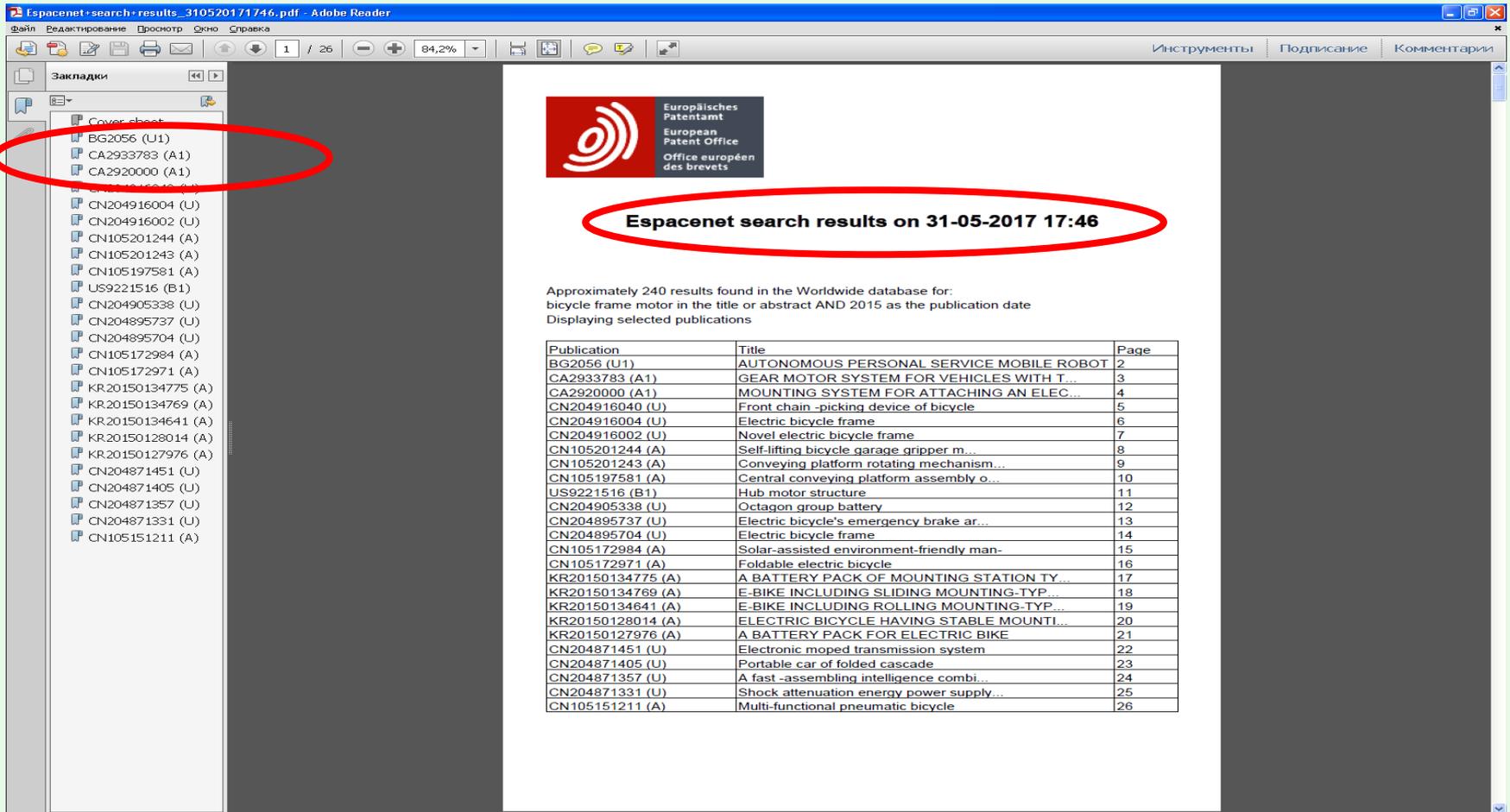
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Hub **motor** structure

Page bookmark: [US9221516 \(B1\) - Hub motor structure](#)

Inventor(s): SONG JOON-KYU [KR] ±

Applicant(s): MANDO CORP [KR] ±

Classification:

- international: [B62M6/45](#); [B62M6/50](#); [B62M6/60](#); [F16H3/72](#); [F16H9/26](#)
- cooperative: [B62M11/16](#); [B62M6/45](#); [B62M6/50](#); [B62M6/60](#); [F16H9/26](#)

Application number: US201514591935 2015010 Global Dossier

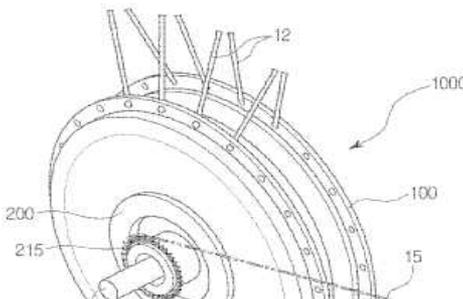
Priority number(s): [KR20140182938](#) 20141218

Also published as: [CN105836035 \(A\)](#) [EP3034387 \(A1\)](#) [KR20160074765 \(A\)](#)

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Disclosed is hub **motor** structure installed on a **bicycle**, the hub **motor** structure including a hollow shaft installed on a **frame** of the **bicycle**, a housing rotatably installed on the hollow shaft, and connected to a wheel at an outer circumferential surface thereof through spokes, a cover rotatably installed on the hollow shaft while installed on the housing, and on which a driven sprocket connected to a chain is provided to receive a pedaling force, a **motor** disposed in the housing and generating a rotary force to drive the wheel, a continuous variable transmission (CVT) disposed in the housing to selectively shift power supplied from the **motor**, a power transmission unit configured to transmit a rotary force of the **motor** to the CVT, and a gear unit configured to transmit a rotary force output from the CVT to the housing.



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Application number: [US201514591935](#) [2015010](#) **Global Dossier**

Priority number(s): [KR20140182938](#) [20141218](#)

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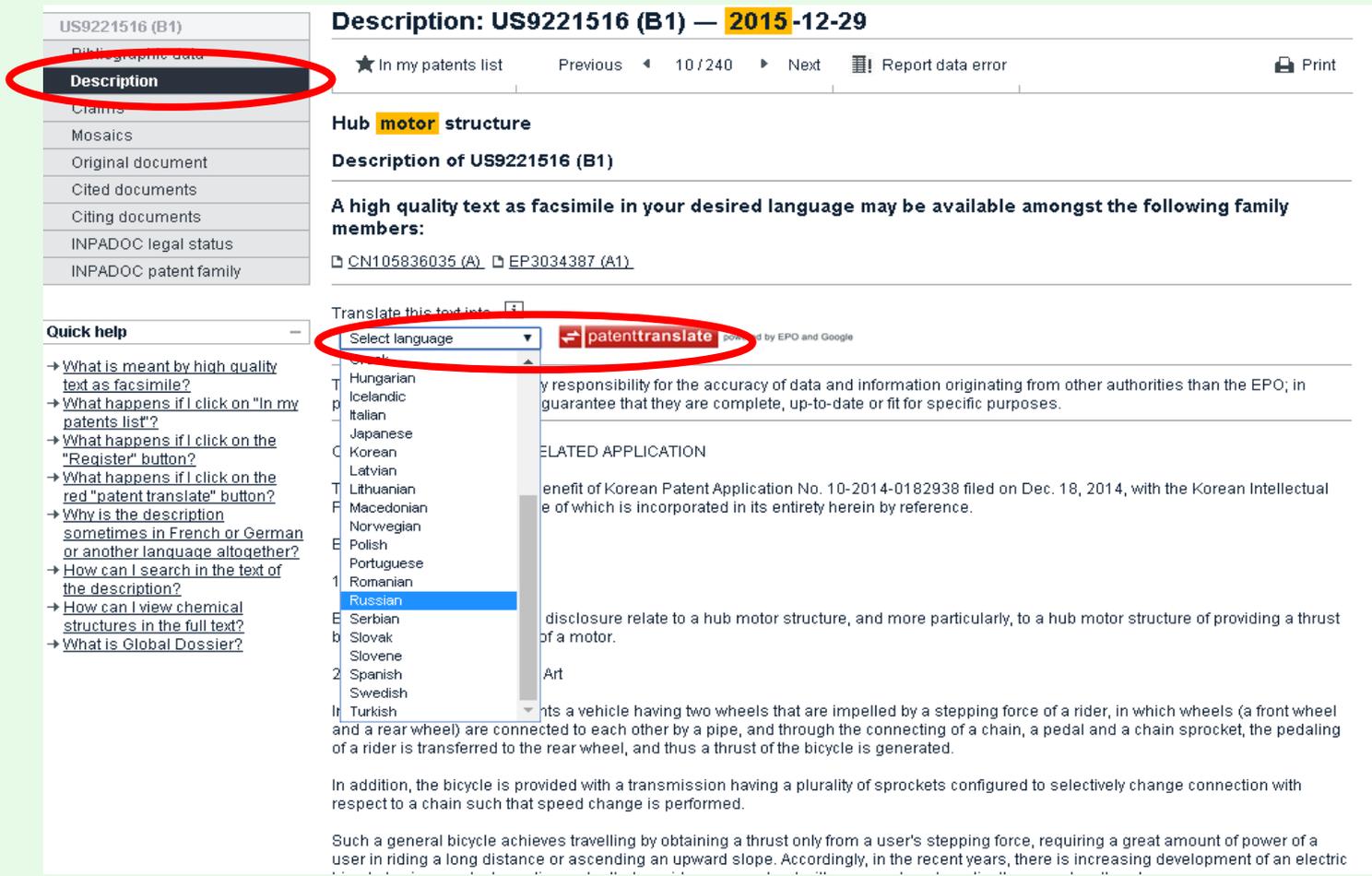
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Описание (Description)



US9221516 (B1)

Description

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Related Application: benefit of Korean Patent Application No. 10-2014-0182938 filed on Dec. 18, 2014, with the Korean Intellectual Property Act of which is incorporated in its entirety herein by reference.

The disclosure relate to a hub motor structure, and more particularly, to a hub motor structure of providing a thrust of a motor.

Art

The present invention provides a vehicle having two wheels that are impelled by a stepping force of a rider, in which wheels (a front wheel and a rear wheel) are connected to each other by a pipe, and through the connecting of a chain, a pedal and a chain sprocket, the pedaling of a rider is transferred to the rear wheel, and thus a thrust of the bicycle is generated.

In addition, the bicycle is provided with a transmission having a plurality of sprockets configured to selectively change connection with respect to a chain such that speed change is performed.

Such a general bicycle achieves travelling by obtaining a thrust only from a user's stepping force, requiring a great amount of power of a user in riding a long distance or ascending an upward slope. Accordingly, in the recent years, there is increasing development of an electric

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1. What is claimed is: 1. A hub motor structure installed on a bicycle, the hub motor structure comprising:
 a hollow shaft installed on a frame of the bicycle;
 a housing rotatably installed on the hollow shaft, and connected to a wheel at an outer circumferential surface thereof through spokes;
 a cover rotatably installed on the hollow shaft while installed on the housing, and on which a driven sprocket connected to a chain is provided to receive a pedaling force;
 a motor disposed in the housing and generating a rotary force to drive the wheel;
 a continuous variable transmission (CVT) disposed in the housing to selectively shift power supplied from the motor;
 a power transmission unit configured to transmit a rotary force of the motor to the CVT; and
 a gear unit configured to transmit a rotary force output from the CVT to the housing.

2. The hub motor structure of claim 1, wherein:
 the CVT has a speed-changing lever to adjust a gear ratio; and
 the speed-changing lever is disposed in the hollow shaft while inserted into an elongation hole formed lengthwise along the hollow shaft so as to be movable in a lengthwise direction of the elongation hole.

3. The hub motor structure of claim 2, wherein the speed-changing lever has one end connected to an operating wire configured to move the speed-changing lever, and the other end connected to an elastic member providing the speed-changing lever with an elastic force.

4. The hub motor structure of claim 1, wherein the power transmission unit comprises:

Формула (Claims) в виде схемы независимых и зависимых пунктов

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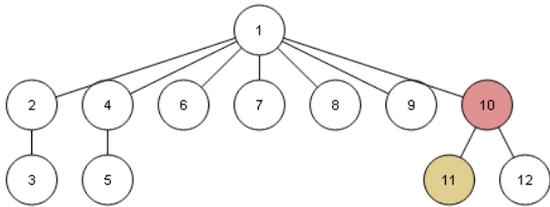
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 a power transmission unit configured to transmit a rotary force of the motor to the CVT; and
 a gear unit configured to transmit a rotary force output from the CVT to the housing.



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    1 --- 6((6))
    1 --- 7((7))
    1 --- 8((8))
    1 --- 9((9))
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FIG. 1

FIG. 2

FIG. 3

FIG. 4

FIG. 5

FIG. 6

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 US009221516B1

<p>(12) United States Patent Song</p> <p>(54) HUB MOTOR STRUCTURE</p> <p>(71) Applicant: MANDO CORPORATION, Pyeongtaek-si (KR)</p> <p>(72) Inventor: Joon-Kyu Song, Seongnam-si (KR)</p> <p>(73) Assignee: MANDO CORPORATION, Gyeonggi-Do (KR)</p> <p>(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.</p> <p>(21) Appl. No.: 14/591,935</p> <p>(22) Filed: Jan. 8, 2015</p> <p>(30) Foreign Application Priority Data</p> <p>Dec. 18, 2014 (KR) 10-2014-0182938</p> <p>(51) Int. Cl. <i>F16H 3/72</i> (2006.01) <i>B62M 6/60</i> (2010.01) <i>B62M 6/45</i> (2010.01) <i>B62M 6/50</i> (2010.01) <i>F16H 9/26</i> (2006.01)</p> <p>(52) U.S. Cl. <i>B62M 6/60</i> (2013.01); <i>B62M 6/45</i> (2013.01); <i>CPC . B62M 6/50</i> (2013.01); <i>F16H 9/26</i> (2013.01)</p> <p>(58) Field of Classification Search CPC B62M 6/60; B62M 6/50; B62M 6/45; B62M 6/65; F16H 9/26 See application file for complete search history.</p>	<p>(10) Patent No.: US 9,221,516 B1</p> <p>(45) Date of Patent: Dec. 29, 2015</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 15%;">8,419,580 B2 *</td> <td style="width: 15%;">4/2013</td> <td style="width: 15%;">Lo</td> <td style="width: 15%;">A61G 5/04</td> <td style="width: 15%;">180.65.51</td> </tr> <tr> <td>8,795,120 B2 *</td> <td>8/2014</td> <td>Kim</td> <td>F16H 1/28</td> <td>180.65.51</td> </tr> <tr> <td>9,114,851 B2 *</td> <td>8/2015</td> <td>Schneider</td> <td>B62M 6/60</td> <td></td> </tr> <tr> <td>9,139,253 B2 *</td> <td>9/2015</td> <td>Song</td> <td>B62M 6/65</td> <td></td> </tr> <tr> <td>2005/0176542 A1 *</td> <td>8/2005</td> <td>Lo</td> <td>B62M 7/12</td> <td>475.5</td> </tr> <tr> <td>2005/0264112 A1 *</td> <td>12/2005</td> <td>Tanaka</td> <td>B60B 27/02</td> <td></td> </tr> <tr> <td>2007/0187952 A1 *</td> <td>8/2007</td> <td>Perlo</td> <td>B60L 8/00</td> <td>290.1 R</td> </tr> <tr> <td>2011/0168511 A1 *</td> <td>7/2011</td> <td>Yamamoto</td> <td>B62M 6/45</td> <td>192.45.006</td> </tr> <tr> <td>2011/0259658 A1 *</td> <td>10/2011</td> <td>Huang</td> <td>B60K 1/04</td> <td>180.65.51</td> </tr> <tr> <td>2012/0083375 A1 *</td> <td>4/2012</td> <td>Lo</td> <td>B60K 1/04</td> <td>475.149</td> </tr> <tr> <td>2015/0191215 A1 *</td> <td>7/2015</td> <td>Kawakami</td> <td>B62M 6/55</td> <td>477.4</td> </tr> </table> <p>* cited by examiner</p> <p><i>Primary Examiner</i> — David J Hlavka (74) <i>Attorney, Agent, or Firm</i> — Ladass & Parry, LLP</p> <p>(57) ABSTRACT</p> <p>Disclosed is hub motor structure installed on a bicycle, the hub motor structure including a hollow shaft installed on a frame of the bicycle, a housing rotatably installed on the hollow shaft, and connected to a wheel at an outer circumferential surface thereof through spokes, a cover rotatably installed on the hollow shaft while installed on the housing, and on which a driven sprocket connected to a chain is provided to receive a pedaling force, a motor disposed in the housing and generating a rotary force to drive the wheel, a continuous variable transmission (CVT) disposed in the</p>	8,419,580 B2 *	4/2013	Lo	A61G 5/04	180.65.51	8,795,120 B2 *	8/2014	Kim	F16H 1/28	180.65.51	9,114,851 B2 *	8/2015	Schneider	B62M 6/60		9,139,253 B2 *	9/2015	Song	B62M 6/65		2005/0176542 A1 *	8/2005	Lo	B62M 7/12	475.5	2005/0264112 A1 *	12/2005	Tanaka	B60B 27/02		2007/0187952 A1 *	8/2007	Perlo	B60L 8/00	290.1 R	2011/0168511 A1 *	7/2011	Yamamoto	B62M 6/45	192.45.006	2011/0259658 A1 *	10/2011	Huang	B60K 1/04	180.65.51	2012/0083375 A1 *	4/2012	Lo	B60K 1/04	475.149	2015/0191215 A1 *	7/2015	Kawakami	B62M 6/55	477.4
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PAWELKA GERHARD [US]		B62M6/45	B62M6/45	2002-07-16	
		B62M6/50	B62M6/50		
		(+3)	(+4)		

2. **HUB MOTOR FOR ELECTRIC VEHICLES**

★ Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
LO CHIU-HSIANG [TW]	LO CHIU-HSIANG [TW]	B60K1/04	F16H57/08	US2012083376 (A1)	2010-10-01
		B60K1/7/046		2012-04-05	
		B60K2001/045		US8348798 (B2)	
		(+6)		2013-01-08	

3. **ELECTRIC WHEEL FOR ELECTRIC VEHICLES**

★ Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
LO CHIU-HSIANG [TW]	LO CHIU-HSIANG [TW]	A61G5/04	B60K1/00	US2012080934 (A1)	2010-10-01
		B60K1/04	B60K7/00	2012-04-05	
		B60K1/7/046		US8419580 (B2)	
		(+8)		2013-04-16	

4. **DRIVE UNIT FOR ELECTRIC BICYCLE**

★ Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
KIM IL YONG [KR]	MANDO CORP [KR]	B62K15/006	F16H1/00	US2014080651 (A1)	2012-09-19
		B62M11/116	F16H1/28	2014-03-20	
		B62M6/65		US8795120 (B2)	
		(+3)		2014-08-05	

5. **DRIVE FOR A PEDAL VEHICLE, PARTICULARLY FOR CHILDREN**

★ Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
SCHNEIDER FRANK [DE]	SCHNEIDER GMBH & CO KG	B62K9/00	B62M6/60	US2013263696 (A1)	2012-04-07
	FRANZ [DE]	B62K9/02		2013-10-10	
	SCHNEIDER GMBH & CO KG	B62M6/60		US9114851 (B2)	

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1. TORQUE SENSOR AND ELECTRIC BICYCLE USING SAME

★ Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
CHEN YEN-CHI [TW] SHIH CHANG-YUAN [TW] (+1)	HON HAI PREC IND CO LTD [TW]	B62M6/50 G01B21/16 G01L3/108 (+2)	B62M6/50 G01L3/10	US2016280322 (A1) 2016-09-29 US9511818 (B2) 2016-12-06	2015-03-26

2. VEHICLE OPERABLE BY MOTOR POWER AND BY MUSCULAR POWER

★ Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
DOMMSCH HANS-PETER [DE]	BOSCH GMBH ROBERT [DE]	B62M6/45 B62M6/55 B62M6/70 (+1)	B62M6/45 B62M6/70 B62M9/06	US2016052595 (A1) 2016-02-25	2013-04-15

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US	F	201514591935 A (Patent of invention)
Event date :		2015/01/08
Event code :		AS
Code Expl.:		ASSIGNMENT
NEW OWNER :		MANDO CORPORATION, KOREA, REPUBLIC OF
EFFECTIVE DATE :		20141224
FURTHER INFORMATION :		ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SONG, JOON-KYU;REEL/FRAME:034664/0196

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4 application(s) for: **US9221516 (B1)**

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1. **Hub motor structure**

	Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
★	SONG JOON-KYU [KR]	MANDO CORP [KR]	B62M11/16 B62M6/45 B62M6/50 (+2)	B62M6/45 B62M6/50 B62M6/60 (+2)	US9221516 (B1) 2015-12-29 i Global Dossier	2014-12-18

2. **Hub motor structure**

	Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
★	SONG JOON-KYU	MANDO CORP	B62M11/16 B62M6/45 B62M6/50 (+2)	B62M7/12	CN105836035 (A) 2016-08-10 i Global Dossier	2014-12-18

3. **Hub motor structure**

	Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
★	SONG JOON-KYU [KR]	MANDO CORP [KR]	B62M11/16 B62M6/45 B62M6/50 (+2)	B62M11/16 B62M6/65 B62M7/12	EP3034387 (A1) 2016-06-22 i Global Dossier	2014-12-18

4. **HUB MOTOR STRUCTURE**

	Inventor:	Applicant:	CPC:	IPC:	Publication info:	Priority date:
★	SONG JOON KYU [KR]	MANDO CORP [KR]	B62M11/16 B62M25/02 B62M6/40 (+8)	B62M25/02 B62M6/40 B62M6/50 (+2)	KR20160074765 (A) 2016-06-29 i Global Dossier	2014-12-18

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Date	Description	Pages
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24.11.2015	Fee Worksheet (SB06)	2
24.11.2015	Issue Fee Payment (PTO-85B)	1
23.10.2015	Examiner's search strategy and results	3
23.10.2015	List of references cited by examiner	1

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File: US201514591935 **Examiner's search strategy and results**

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	947	B62M6/60.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/10/16 10:28
S2	247	S1 and hub\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/10/16 10:28
S3	2	S2 and (CVT\$3 (continuous\$3 near1 variabl\$3 near1 transmission\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/10/16 10:33

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<u>Date</u>	<u>Description</u>	<u>Pages</u>
14.12.2016	Written Decision on Registration (ORIGINAL)	-
14.12.2016	Written Decision on Registration (TRANSLATED)	-
24.11.2016	Written Decision on Preferential Examination (TRANSLATED)	-
24.11.2016	Written Decision on Preferential Examination (ORIGINAL)	-
16.11.2016	Notification of Change of Information of Applicant (TRANSLATED)	-
16.11.2016	Notification of Change of Information of Applicant (ORIGINAL)	-
16.11.2016	Request for Accelerated Examination of Patent (TRANSLATED)	-
16.11.2016	Request for Accelerated Examination of Patent (ORIGINAL)	-
23.09.2016	[Patent Application] Patent Application (ORIGINAL)	-
23.09.2016	[Patent Application] Patent Application (TRANSLATED)	-

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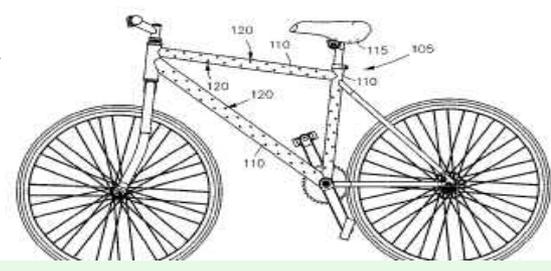
BICYCLE ILLUMINATION SYSTEM

Page bookmark	EP3100937 (A1) - BICYCLE ILLUMINATION SYSTEM
Inventor(s):	PETERSON MICHAEL [US]; PETERSON BRIAN [US]; PETERSON SEAN [US] ±
Applicant(s):	PETERSON MICHAEL [US]; PETERSON BRIAN [US]; PETERSON SEAN [US] ±
Classification:	- international: B62J6/00 - cooperative: B62J6/00; B62J6/003; B62K19/40
Application number:	EP20160020216 2016060 Global Dossier
Priority number(s):	US201514729875 20150603
Also published as:	US2016355227 (A1) US9610994 (B2)

Abstract of EP3100937 (A1)

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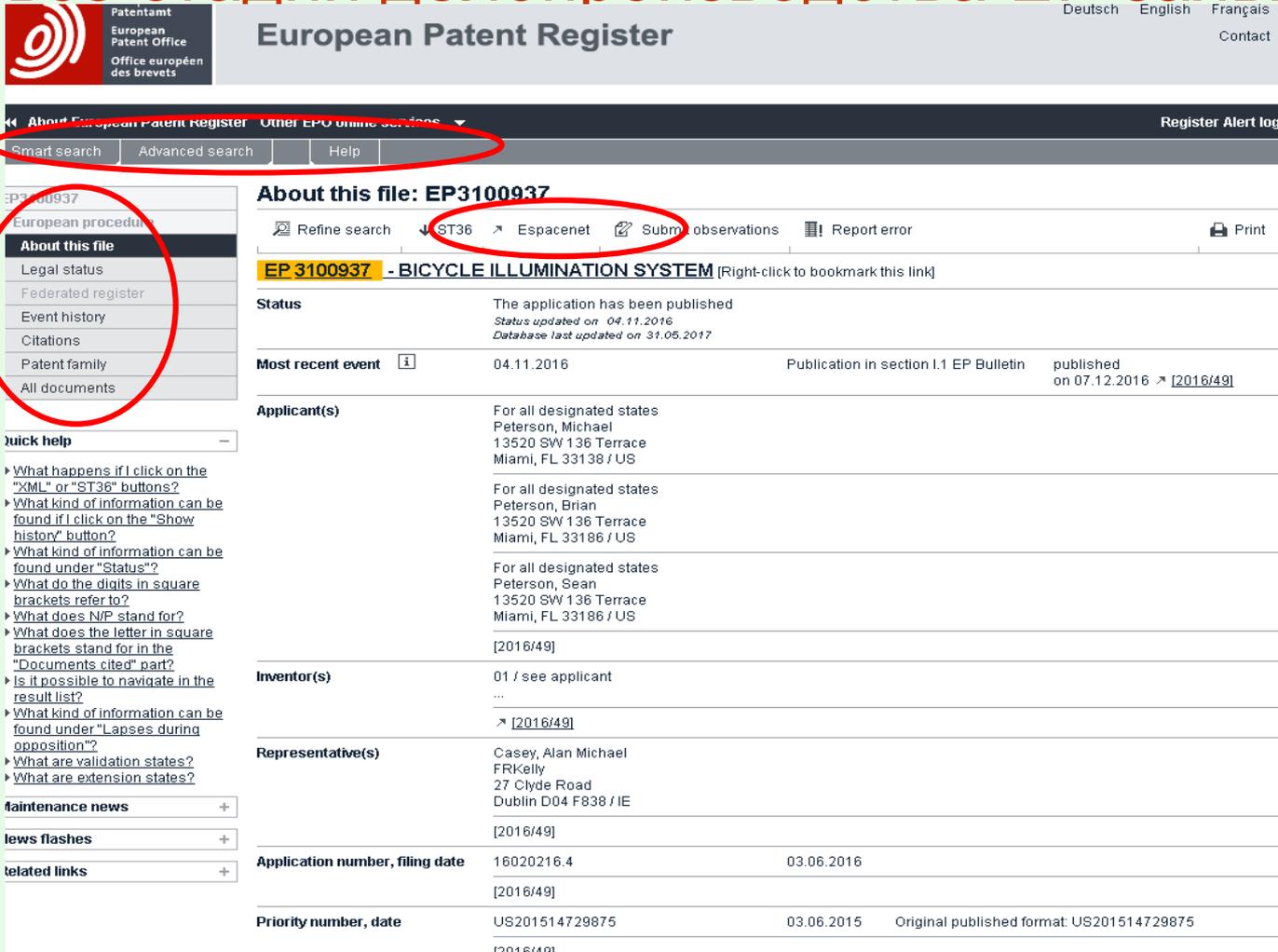
A system for illuminating a bicycle having a frame comprising a plurality of tubular frame members (110) wherein each frame member has a plurality of orifices (120). The orifices (120) allow light rays to pass from inside each tubular frame member (110) to outside each tubular frame member (110). Bulbs (215) for emitting light are adapted to fit inside the tubular frame members (110) and are conductively coupled to a power source (225). The power source (225) is sized such that the power source (225) fits inside a vertically situated tubular frame member (205). A planar platform (230), having a length in one direction that is less than the inside cross sectional diameter of the vertically aligned tubular frame member (205), is sized so that the platform fits inside the vertical tubular frame member (205). The platform (230) supports the power source (225) and is positioned such that the power source (225) can be installed and



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The screenshot shows the European Patent Register interface. At the top, there are navigation links for 'Deutsch', 'English', and 'Français', along with a 'Contact' link. Below this is a search bar with options for 'Smart search', 'Advanced search', and 'Help'. The main content area displays details for the patent file 'EP 3100937 - BICYCLE ILLUMINATION SYSTEM'. The 'About this file' section is circled in red, and the 'ST36' button is also circled. The 'Status' section indicates that the application has been published. The 'Most recent event' section shows the publication date of 04.11.2016. The 'Applicant(s)' section lists three applicants: Michael Peterson, Brian Peterson, and Sean Peterson. The 'Inventor(s)' section lists '01 / see applicant'. The 'Representative(s)' section lists Alan Michael FRKelly. The 'Application number, filing date' section shows '16020216.4' and '03.06.2016'. The 'Priority number, date' section shows 'US201514729875' and '03.06.2015'.

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<input type="checkbox"/> of receipt of (electronically) transmitted priority document	Search / examination	1
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<input type="checkbox"/> 08.12.2016 Priority document (electronically transmitted)	Search / examination	39
<input type="checkbox"/> 09.11.2016 Notification of forthcoming publication	Search / examination	2
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<input type="checkbox"/> H	ELECTRICITY	<input type="button" value="s"/>	<input type="button" value="i"/>
<input type="checkbox"/> Y	GENERAL TAGGING OF NEW TECHNOLOGICAL DEVELOPMENTS; GENERAL TAGGING OF CROSS-SECTIONAL TECHNOLOGIES SPANNING OVER SEVERAL SECTIONS OF THE IPC; TECHNICAL SUBJECTS COVERED BY FORMER USPC CROSS-REFERENCE ART COLLECTIONS [XRACS] AND DIGESTS	<input type="button" value="s"/>	<input type="button" value="i"/>

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ENGINES OR PUMPS		
<input type="checkbox"/> F01	MACHINES OR ENGINES IN GENERAL (combustion engines F02 ; machines for liquids F03 , F04); ENGINE PLANTS IN GENERAL ; STEAM ENGINES	
<input type="checkbox"/> F01B	MACHINES OR ENGINES, IN GENERAL OR OF POSITIVE-DISPLACEMENT TYPE, e.g. STEAM ENGINES (of rotary-piston or oscillating-piston type F01C ; of non-positive-displacement type F01D ; internal-combustion aspects of reciprocating-piston engines F02B 57/00 , F02B 59/00 ; crankshafts, crossheads, connecting-rods F16C ; flywheels F16F ; gears for interconverting rotary motion and reciprocating motion in general F16H ; pistons, piston rods, cylinders, for engines in general F16J)	S D I
<input type="checkbox"/> F01B 1/00	Reciprocating-piston machines or engines characterised by number or relative disposition of cylinders or by being built-up from separate cylinder-crankcase elements (F01B 3/00 , F01B 5/00 take precedence)	D
<input type="checkbox"/> F01B 1/01	• with one single cylinder	
<input type="checkbox"/> F01B 1/02	• with cylinders all in one line	
<input type="checkbox"/> F01B 1/04	• with cylinders in V-arrangement	
<input type="checkbox"/> F01B 1/06	• with cylinders in star or fan arrangement	
<input type="checkbox"/> F01B 1/0603	•• (the connection of the pistons with an element being at the outer ends of the cylinders)	D
<input type="checkbox"/> F01B 1/0606	••• {with cam-actuated distribution member(s)}	
<input type="checkbox"/> F01B 1/061	••• {with two or more series radial piston-cylinder units}	
<input type="checkbox"/> F01B 1/0613	•••• {directly located side by side}	
<input type="checkbox"/> F01B 1/0617	•••• {coupling of several cylinders-barrels}	
<input type="checkbox"/> F01B 1/062	•• {the connection of the pistons with an actuating or actuated element being at the inner	D

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- B62J 1/005 • Saddles having a seating area with multiple separate weight bearing surfaces [2013-01-01]
- B62J 1/162 ••• Child seats specially adapted for motorcycles [2013-01-01]
- B62J 1/165 ••• Child seats attachable to handlebars [2013-01-01]
- B62J 1/167 ••• Child seats attachable in front of the driver saddle [2013-01-01]

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Title or abstract: **i** hair

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Application number: **i** DE19971031696

Priority number: **i** WO1995US15925

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