Matteo Mozzi

PATENTS, UTILITY MODELS AND DESIGNS OVERVIEW

Interactive workshop: How to protect an artifact or industrial product?

September 22, 2020

JACOBACCI & PARTNERS

Patents

JACOBACCI & PARTNERS

What is a patent?

A patent is an exclusive right granted for an invention, which is a product or a process that provides, in general, a new way of doing something, or offers a new technical solution to a problem. To get a patent, technical information about the invention must be disclosed to the public in a patent application.

The patent owner has the exclusive right to prevent or stop others from commercially exploiting the patented invention. In other words, patent protection means that the invention cannot be commercially made, used, distributed, imported or sold by others without the patent owner's consent.

(https://www.wipo.int/patents/en/)

JACOBACCI & PARTNERS

PATENTABLE INVENTIONS – Art. 52 EPC

(1) 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**.

(2) The following in particular shall not be regarded as inventions within the meaning of paragraph 1:

(a) discoveries, scientific theories and mathematical methods;

(b) aesthetic creations;

(c) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers;

(d) presentations of information.

Novelty (Art. 54 EPC)

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**

PATENTS

JACOBACCI & PARTNERS

Inventive Step (Art. 56 EPC)

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**.

JACOBACCI & PARTNERS

- **Filing requirements:** description, claims, drawings

- **Filing strategy**

First filing: national (e.g. IT), EPO, PCT

Second filing: national (e.g. IT, US, CN, …), EPO, PCT within the end of the priority period (12 months from the first filing)

- **Granting procedure**

- **Duration:** 20 years from the filing date

Example of PATENTS

No. 865,367. PATENTED SEPT. 10, 1907.

T. A. EDISON.

FLUORESCENT ELECTRIC LAMP.

APPLICATION FILED MAY 19, 1896. RENEWED APR. 20, 1902.

Fig. 1.

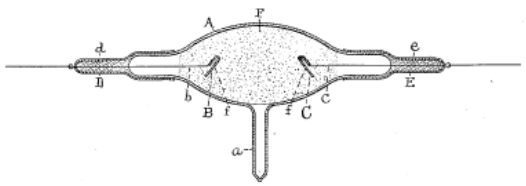


Fig. 2.

UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF LLEWELLYN PARK, NEW JERSEY.

FLUORESCENT ELECTRIC LAMP.

No. 865,367. Specification of Letters Patent. Patented Sept. 10, 1907.

Application filed May 19, 1896. Serial No. 592,112. Renewed April 20, 1902. Serial No. 105,333.

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, a citizen of the United States, residing at Llewellyn Park, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Fluorescent Electric Lamps, of which the following is a specification.

The object I have in view is to produce light by fluorescence. I have found that tungstate of calcium or strontium, when acted upon by molecular bombardment, or, if placed outside of the vacuum tube, when acted upon by X rays, will give a useful amount of light in tubes of moderate size and with a small expenditure of energy. I have found that most of the chemical substances which fluoresce when subjected to the action of the X ray of Röntgen, outside of a vacuum tube, are highly responsive to the molecular bombardment when placed within a vacuum tube, and that many of these chemical substances when placed within the vacuum tube may be utilized for the giving of light. In addition to barium platinocyanid, used by Röntgen, I have myself discovered the capacity of many chemicals to fluoresce when subjected to the X ray of Röntgen, and these chemicals are now well known through publications of my work. I prefer to employ the tungstate of calcium on account of its greater power of conversion of the vibrations, waves or rays into light, but the tungstate of strontium, although less powerful, acts in the same way. The tungstate crystals are preferably fused to the glass upon the inside of the vacuum tube. I may, however, fuse the crystals to the outside of the glass bulb, or may place them either on the inside or outside of an inclosing envelop surrounding the vacuum bulb, which envelop may be of glass or other transparent material, or it may be of a material opaque to light, in which case the crystals will necessarily be placed upon the outside of the envelop. The tungstate of calcium or strontium should be made by the fusion process, so that the crystals shall be transparent like glass, this being a well known process described in chemical work. I prefer to grind the crystals, and to use only those which will pass through a 40-mesh screen and which are excluded by a 150-mesh screen.

The preferred construction of the lamp for carrying out my invention is illustrated in the accompanying drawing, in which

Figure 1 is a sectional view of the lamp; and Fig. 2 is a face view of one of the electrodes.

A is a glass bulb exhausted and sealed off at the tube a, which tube may be used as a support. The bulb is preferably of lime glass.

B, C are metal electrodes preferably of aluminium. These are attached to the ends of platinum wires *b*, *c*, which pass through the ends of the bulb and are sealed into stems *d*, *e* located outside of the bulb. The electrodes B, C are placed oblique to the axis of the bulb, so that the foci of heat where the electric rays strike the glass shall not be a concentrated one, but shall be spread out over a large area due to the glancing angle between the rays and the glass. The electrodes B, C are provided with holes *f* at their centers. These holes also prevent sharpness of the heat foci. By sealing the platinum wires in stems outside of the glass bulb instead of by stems projecting inwardly from the walls of the bulb, as usual heretofore in vacuum tubes, the sparking of the wires where sealed in the glass, and the attendant cracking of the glass, its vaporization and the lowering of the vacuum are avoided. The vacuum bulb is narrowed at its ends, as shown, and the outside of those glass ends is covered with sections of metallic foil D, E which extend back over the glass stems *d*, *e* and are connected with the platinum wires. The sections of metal foil D, E form outside electrodes in the rear of the main electrodes B, C, and augment the action of the tube, and especially prevent the rays from being thrown back from the electrodes B, C towards the ends of the bulb, and causing them to be thrown with the greatest intensity towards the middle portion of the bulb. These outside electrodes also give what is called "relief" to the static charge.

F is the coating of powdered crystals of tungstate of calcium or strontium. This coating covers the entire interior surface of the bulb A, at least around its middle portion. It is fused to the inner surface of the bulb by placing in the bulb during its manufacture a quantity of the powdered crystals, and then heating the bulb red hot in a glass-blower's flame while the bulb is rotated. The rotation of the bulb causes the mass of crystals to spread out over the surface, to which they adhere by the softening of the glass. The bulb is subsequently exhausted to the proper degree of vacuum at which the so-called molecular bombardment effect is at its maximum, when the bulb is sealed off. When the tube is properly excited by oscillating waves of electricity, the effect of the bombardment of the molecules of the residual gas is to cause the powdered tungstate to fluoresce brilliantly with a pure white light. A single bulb of moderate size can, by this means, be made to give several candle-power of light with a very small expenditure of energy. If the crystals are fused to the outside of the bulb, the candle-power is not so great, but the lamp can be more readily exhausted of air.

Fluorescent lamps made in accordance with this invention may be operated singly or may be worked together in series or in multiple arc. The features of construction of the vacuum tube are also applicable to vacuum tubes for producing X rays and other effects.

What I claim is:

1. A fluorescent screen or surface composed of tungstate of calcium, substantially as set forth.

2. A fluorescent screen composed of glass with a fluorescent crystalline powder fused thereto, substantially as set forth.

3. In a fluorescent electric lamp, the combination of a vacuum tube and a fluorescent screen excited thereby and composed of glass, and a crystalline powder fused thereto, substantially as set forth.

4. A fluorescent electric lamp having in combination a vacuum tube and a crystalline fluorescent powder fused to the inner surface of the vacuum tube, substantially as set forth.

5. A fluorescent electric lamp having in combination a vacuum tube, chemicals placed within the vacuum, which fluoresce when subjected to the X ray of Röntgen, and electrodes placed at an angle, substantially as set forth.

6. A fluorescent electric lamp having in combination a vacuum tube, chemicals placed therein which fluoresce when subjected to the X ray of Röntgen, and electrodes having their centers cut away, substantially as set forth.

This specification signed and witnessed this 16 day of May 1896.

THOMAS A. EDISON.

Witnesses:

W. T. MALLORY,

J. F. RANDOLPH.

Utility Model

What is a utility model?

Utility models protect **new** technical inventions through granting a limited exclusive right to prevent others from commercially exploiting the protected inventions without consents of the right holders.

In order to obtain protection, an application must be filed, and a utility model must be granted.

They are sometimes referred to as "short-term patents", "utility innovations" or "innovation patents".

In general, utility models are considered particularly suited for protecting inventions that make small improvements to, and adaptations of, existing products or that have a short commercial life.

(https://www.wipo.int/patents/en/topics/utility_models.html)

UTILITY MODELS – 1/2

The requirements for acquiring utility models are less stringent than for patents.

While the requirement of "novelty" is always to be met, albeit some countries only on a local level, that of "inventive step" or "non-obviousness" may be lower or absent altogether.

In practice, protection for utility models is often sought for innovations of a **rather incremental character** which may not meet the patentability criteria.

In some countries, utility model protection can only be obtained for certain fields of technology, such as **mechanical devices and apparatus**, and only for products but not for processes.

(https://www.wipo.int/patents/en/topics/utility_models.html)

UTILITY MODELS – 2/2

- Filing requirements: description, claims, drawings

- Filing strategy

First filing: national (e.g. IT)

Second filing: national (e.g. IT, DE), also as patent application (e.g. EPO, PCT) within the end of the priority period (12 months from the first filing)

- Registration procedure: in most countries, patent offices do not examine utility model applications as to substance prior to registration. This means that the registration process is often simpler and faster, sometimes taking six months or less

- Duration: usually between 6 and 15 years from the filing date (e.g. IT, DE: 10 years)

Examples of registered UTILITY MODELS

IT Utility model n. 202018000002346
Advertising device

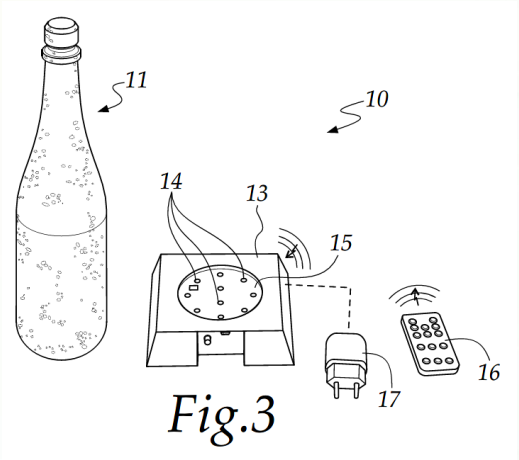


Fig.3

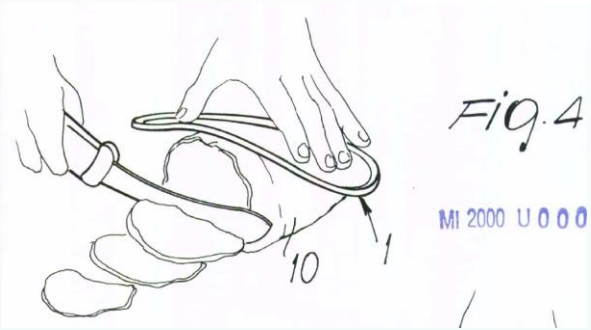


Fig.4

MI 2000 U 000

IT Utility model n. 0000249845
Device for cutting operations in particular of food products

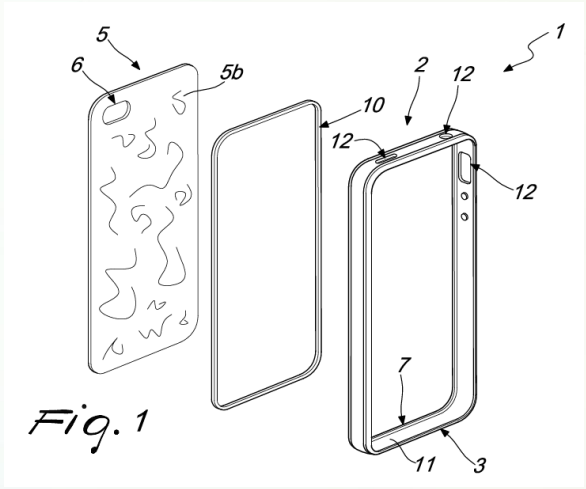


Fig. 1

IT Utility model n. 0000278677
Partial cover case, especially for electronic devices.

DESIGNS

What is a design?

Art. 3 Council Regulation (EC) n. 6/2002 on Community designs

(a) "design" means the appearance of the whole or a part of a product resulting from the features of, in particular, the **lines, contours, colours, shape, texture and/or materials of the product itself and/or its ornamentation**;

(b) "product" means any industrial or handicraft item, including inter alia parts intended to be assembled into a complex product, packaging, get-up, graphic symbols and typographic typefaces, but excluding computer programs;

(c) "complex product" means a product which is composed of multiple components which can be replaced permitting disassembly and re-assembly of the product.

No technical function of a product can be protected with a design.

Requirements for protection

(Art. 4.1 Council Regulation (EC) n. 6/2002 on Community designs)

A design shall be protected by a Community design to the extent that it is **new** and has **individual character**.

Novelty

(Art. 5 Council Regulation (EC) n. 6/2002 on Community designs)

1. A design shall be considered to be new **if no identical design has been made available to the public**:

(a) in the case of an unregistered Community design, before the date on which the design for which protection is claimed has first been made available to the public;

(b) in the case of a registered Community design, **before the date of filing of the application for registration of the design for which protection is claimed, or, if priority is claimed, the date of priority**.

2. Designs shall be deemed to be identical if their features differ **only in immaterial details**.

Individual Character

(Art. 6 Council Regulation (EC) n. 6/2002 on Community designs)

1. A design shall be considered to have individual character if the **overall impression** it produces on the **informed user** differs from the overall impression produced on such a user by any design which has been made available to the public:

(a) in the case of an unregistered Community design, before the date on which the design for which protection is claimed has first been made available to the public;

(b) in the case of a registered Community design, before the date of filing the application for registration or, if a priority is claimed, the date of priority.

2. In assessing individual character, the degree of freedom of the designer in developing the design shall be taken into consideration.

DESIGNS

- Filing requirements: drawings, classification, single design vs multiple design, description (optional)

- Filing strategy

First filing: national (e.g. IT), regional (e.g. EU), International Design (WIPO)

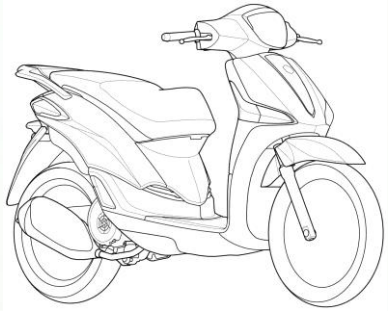
Second filing: national (e.g. US, CN), regional (e.g. U.E.), International Design (WIPO) within the end of the priority period (6 months from the first filing)

- Grace period / unregistered Community design

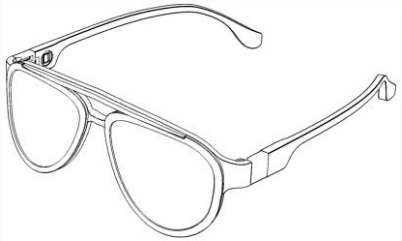
- Registration procedure vs Examination procedure

- Duration: until 25 years from the filing date (e.g. IT, EU, WIPO). In some countries the duration starting from the date of the grant of the design

Examples of registered DESIGNS



DM/088 443
«Motor scooters»



DM/088 899
«Eyeglasses»

DM/087 381
«Watches»

DM/088 768
«bag»

THANK YOU FOR YOUR ATTENTION!

Matteo Mozzi
Italian and European Patent Attorney
Professional Representative before the EUIPO
mmozzi@jacobacci.com

Jacobacci & Partners S.p.A.
Milan Office
www.jacobacci.com

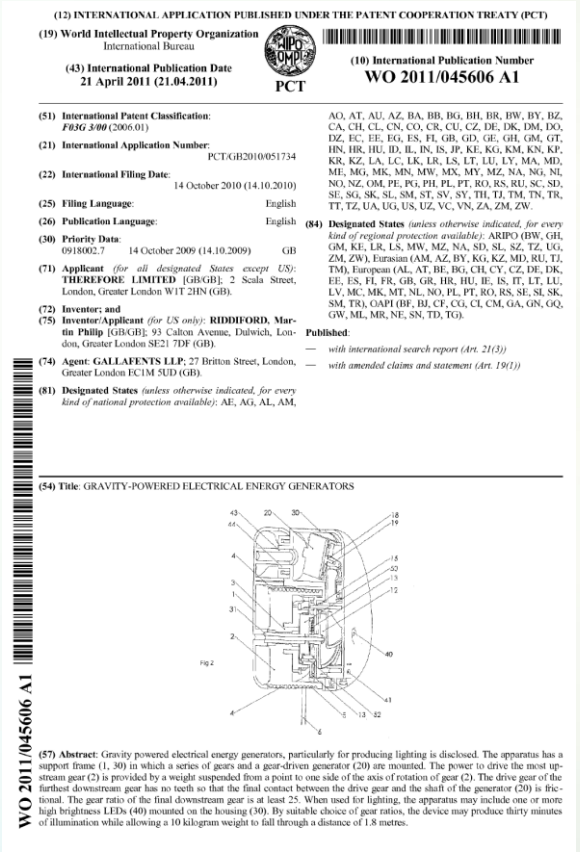
PATENTS

JACOBACCI & PARTNERS

WO 2011/045606 **PCT/GB2010/051734**

Claims

[Claim 1] Gravity-driven electrical energy-generating apparatus comprising a support frame, at least two high step-up ratio gears mounted in series in the support frame, wherein the power input to the most upstream gear is provided by a weight suspended from a point to one side of the axis of rotation of the gear, and wherein the power output from the most downstream gear is the shaft of a generator, and wherein the apparatus is characterised in that the gear ratio of the final high step-up ratio gear is at least 25 and the contact between the drive gear and the generator shaft is frictional.



(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
21 April 2011 (21.04.2011)

PCT

(10) International Publication Number
WO 2011/045606 A1

(51) International Patent Classification:
F03G 3/00 (2006.01)

(21) International Application Number:
PCT/GB2010/051734

(22) International Filing Date:
14 October 2010 (14.10.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0918002.7 14 October 2009 (14.10.2009) GB

(71) Applicant *(for all designated States except US)*: **THEREFORE LIMITED** [GB/GB]; 2 Scala Street, London, Greater London W1T 2HN (GB).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **RIDDIFORD, Martin Philip** [GB/GB]; 93 Calton Avenue, Dulwich, London, Greater London SE21 7DF (GB).

(74) Agent: **GALLAFENTS LLP**; 27 Britton Street, London, Greater London EC1M 5UD (GB).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report (Art. 21(3))*
— *with amended claims and statement (Art. 19(1))*

(54) Title: GRAVITY-POWERED ELECTRICAL ENERGY GENERATORS

Fig 2

(57) Abstract: Gravity powered electrical energy generators, particularly for producing lighting is disclosed. The apparatus has a support frame (1, 30) in which a series of gears and a gear-driven generator (20) are mounted. The power to drive the most upstream gear (2) is provided by a weight suspended from a point to one side of the axis of rotation of gear (2). The drive gear of the furthest downstream gear has no teeth so that the final contact between the drive gear and the shaft of the generator (20) is frictional. The gear ratio of the final downstream gear is at least 25. When used for lighting, the apparatus may include one or more high brightness LEDs (40) mounted on the housing (30). By suitable choice of gear ratios, the device may produce thirty minutes of illumination while allowing a 10 kilogram weight to fall through a distance of 1.8 metres.

WO 2011/045606 A1