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(56) Documents Cited

**EP 0786848 A1 WO 84/01041 A1 JP 110261681 A**  
**JP 110234913 A JP 100323006 A JP 100313933 A**  
**JP 100210650 A JP 060068911 A JP 030182062 A**  
**US 5949215 A US 5278806 A US 4644246 A**

(58) Field of Search

**INT CL<sup>7</sup> F03G 3/00 7/08 , H01M 10/46 , H02J 7/14**  
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(54) Abstract Title

**Battery housed kinetic generator**

(57) An electrical generator housed in a casing having the same shape as conventional electrochemical batteries generates electricity from vibrations/ movement of the battery casing. The generator comprises a motion sensitive rotor which may be formed by an external crank. Electrical energy generated is stored in a battery/capacitor.

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## Description

This invention is a further development of previously submitted applications (9922460.2 and 9923432.0). It is an electromechanical mechanism that combines electrical, electronic and mechanical systems. It replaces the conventional recharging of electrochemical batteries by generating enough power to drive a specified mechanism of specified power requirement. This system can be used repeatedly without the aid of an external electrical charging.

The usual conventional for rechargeable batteries is by the application of external power supply. This could take hours before they are duly charged. This makes them to consume more power all together. The kinematic system is quite unlike.

This current invention incorporates a new form of internal mechanical and electrical recharging instead of using the usual external means. It can be incorporated into the framework of a gadget to work alongside conventional rechargeable dry cell, nickel-cadmium, and lithium batteries. This system works in two ways. Firstly, it can be made to be gravitational-pull-sensitive. This means that the physically moving or shaking the casing housing the kinematic system generates a mechanical energy. A movement-sensitive rotor inside the system moves the rotor. The rotor in turn moves the super-dynamo (or generator). This mechanical action is transformed into an electrical energy. The electrical energy, which can be stepped up, goes through the integrated circuit (i.c.) and henceforth recharges the batteries to which it is connected.

The second way of using this system is through the incorporation of an external mechanical movement. A mechanical movement is started from without the system but mechanically linked into the system, leading to the generation of electric current, which is and transmitted, for use in and from the system. Simply put, this means of activating the system turns mechanical energy into electrical energy.

A permanent or removable external crank is permanently linked to a rotor. Each movement of this crank causes the rotor to turn. The rotor therefore acts as a gearing system, which drives a generator (or super-dynamo). The resulting movement creates some electrical energy that goes through to the integrated circuit (i.c.) and then to the rechargeable batteries.

When the power in the batteries is about to run out, the microprocessor 'senses' this and may alert the system for the regeneration of energy.

Depending on the energy requirement, a mini transformer or stepper motor may be used to step up current generation. It should be noted, however, that the whole action of electricity generation, storage and use is controlled by a microprocessor inside the system. In some cases, where the system is being built as part of a gadget, an external microprocessor may be employed as a substitute for the one inside.

## CLAIMS

1. A mechanism or system that operates by combining electrical, electronic and mechanical actions to generate, store, and transfer electricity, turning mechanical energy into electrical energy as a battery charger substitute.
2. An electrical, electronic and mechanical mechanism or system as described in (1) which is structurally designed in conformity to conventional dry cell, nickel-cadmium, and lithium system shapes, for example R6, UM3, AAA, etc., as a unit or structurally designed to link up with rechargeable batteries as charging substitute, in, with or for a gadget.
3. An electrical, electronic and mechanical mechanism or system as described in (1) and (2) used as a battery charging substitute that utilises a crank or object of similar function, irrespective of its size or shape, permanently linked to a rotor designed to move and rotate the generator at the slightest movement.
4. An electrical, electronic and mechanical mechanism or system as described in (1) and (2) used as a battery charging substitute that utilises a removable crank or object of similar function, irrespective of its size or shape, linked to a rotor designed to move and rotate the generator at the slightest movement.
5. An electrical, electronic and mechanical mechanism or system as described in (1) and (2) used as a battery-charging substitute which uses a microprocessor that controls the generation, storage and utilisation of the electricity it creates.
6. An electrical, electronic and mechanical mechanism or system as described in (1) and (2) used as a battery-charging substitute which uses an external microprocessor as a substitute for the one as described in (5), where the system is being built as part of a gadget.
7. An electrical, electronic and mechanical mechanism or system as described in (1) and (2) used as a battery-charging substitute that uses a generator that is mechanically driven to generate electricity for use as a battery-charging substitute.
8. An electrical, electronic and mechanical mechanism or system as described in (1) and (2) used as a battery-charging substitute that operates with a mini transformer or stepper motor to step up its current generation in the system for use as a battery-charging substitute.
9. An electrical, electronic and mechanical mechanism or system as described in (1) and (2) used as a battery-charging substitute which domiciles a capacitor that can be repeatedly charged when it runs out of energy.



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Application No: GB 0003919.8  
Claims searched: 1-9

Examiner: Huw Jones  
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### Patents Act 1977 Search Report under Section 17

#### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.R):

Int Cl (Ed.7): F03G - 3/00, 7/08  
H02J - 7/14, 15/00  
H02K - 7/06, 7/18, 35/00  
H01M - 10/46

Other: Online: WPI, EPODOC, PAJ

#### Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	EP0786849 A1 (Troy) - see fig. 1	3,4 at least
X	US5949215 (Seiko) - fig. 1	3,4 at least
X	US5278806 (Gigandet) - see fig. 9	1 at least
X	US4644246 (Kinetron) - see fig. 1	1 at least
X	WO8401041 A1 (Knapen) - see fig. 4	1 at least
X	JP11261681 A (Hasegawa) - see figure and English language abstract	1 at least
X	JP11234913 A (Seiko) - see figure and English language abstract	1, 2 at least
X	JP10323006 A (Sharp) - see figure and English language abstract	1, 2 at least
X	JP10313933 A (Matsushita) - see figure and English language abstract	1 at least

X Document indicating lack of novelty or inventive step  
Y Document indicating lack of inventive step if combined with one or more other documents of same category.  
& Member of the same patent family

A Document indicating technological background and/or state of the art.  
P Document published on or after the declared priority date but before the filing date of this invention.  
E Patent document published on or after, but with priority date earlier than, the filing date of this application.

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Category	Identity of document and relevant passage	Relevant to claims
X	JP10210650 A (Hayashi) - see figure and English language abstract	1, 2 at least
X	JP6068911 A (NT&T) - see figure and English language abstract	1, 2 at least
X	JP3182062 A (Mitsubishi) - see figure and English language abstract	1, 2 at least

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

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