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(54) MERRY-GO-ROUND WITH PEDAL TRACTION SYSTEM

(57) The invention relates to a merry-go-round comprising a podium having a vertical rotating shaft projecting therefrom, the upper part of said shaft including a structure from which the merry-go-round seats are suspended. The invention is **characterised in that** the upper surface of the podium has a first circular platform section which is solidly connected to the vertical shaft and surrounds said shaft and a second platform section which is coaxial to the first and surrounds same. In addition, the merry-go-round also includes a pedal driving system which is connected to a driving wheel that is in contact with the first platform section, such that the first platform section is driven when the pedals are rotated, causing the vertical shaft to rotate.

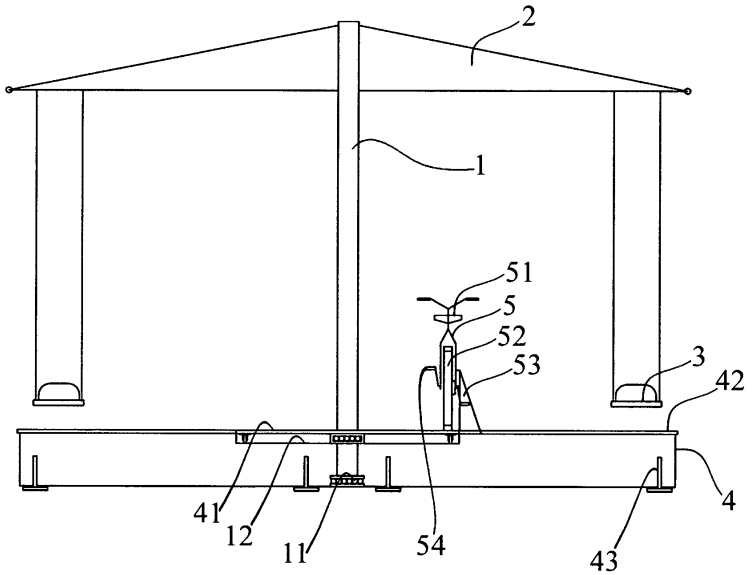

FIG.2

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Description

[0001] The present invention relates to a merry-go-round. More particularly, the present invention relates to a manually actuated merry-go-round, intended for semipermanent installation and which makes it possible to actuate a large number of seats actuated by a single person.

[0002] By semipermanent installation there is meant an installation which is non-final but permanent for a long period of time, of days, weeks, or months, comprising overnight periods of installation.

[0003] In particular, the merry-go-round which is the subject of the present invention is composed of a podium from which projects a vertical rotating shaft which has on its upper part a structure from which the seats of the merry-go-round are suspended, the upper surface of the podium having a first circular platform section which is firmly secured to the vertical shaft and surrounds the shaft, and a second platform section coaxial to the first and which surrounds same, the merry-go-round also including a pedal driving system connected to the second platform section, the pedals being connected to a driving wheel in contact with the first platform section, such that the first platform section is driven when the pedals are rotated, thus causing the vertical shaft to rotate.

[0004] Preferably, the wheel drives the first platform section by means of friction by means of the wheel being in contact with the first platform section.

[0005] Preferably, the amusement posts will be seats in a circular arrangement.

[0006] In accordance with the tests carried out, the system which is the subject of the present invention makes it possible to drive a merry-go-round with twelve seats without any great effort, due to the fact that the action of the pedals is not transmitted directly to the vertical shaft, but is produced by means of the wheel being in contact with the first platform section, at a point remote from the shaft, preferably on the periphery of the aforementioned first platform section.

[0007] The merry-go-round of the present invention has the advantage of not requiring mechanical transmission members which are heavy and require maintenance.

[0008] The braking system of the merry-go-round may be the conventional braking system for braking a bicycle, that is, brake shoes which act on the driving wheel.

[0009] For its installation, the podium preferably has levelling means.

[0010] For greater understanding thereof, drawings of an embodiment of the merry-go-round of the present invention are appended by way of non-limiting explanatory example.

Figure 1 is an end view in elevation of a merry-go-round according to the present invention.

Figure 2 comprises a side elevation in which the upper decorative elements have been removed and in which the internal elements of the podium are shown.

Figure 3 is a plan view from above in which the arrangement of the elements on the podium is shown.

[0011] In the drawings can be seen an embodiment of the merry-go-round according to the present invention which comprises a podium 4 from which projects a rotating shaft 1 formed, for example, by a cylinder 6 cm in diameter. Arranged in the upper part of the shaft 1 is a structure 21 from which are suspended the seats 3 which are in a circular arrangement. The structure 21 is concealed by an awning 21. The rotating shaft is secured to the podium 4 by means of two stabilizing bearings 11, 12 located at two points on the podium 4. The podium 4 also has stabilizers 43 in order to ensure the true verticality of the shaft 1 and thus improved transmission of motion between elements and improved functioning of the whole system.

[0012] The upper platform of the podium 4 is divided into two. Surrounding the rotating shaft 1 there is a first platform section 41 which is circular and solidly connected to same. Surrounding the first section 41 and coaxial thereto there is a second platform section 42 which is fixed.

[0013] The drive is manual and in the case which is shown is provided by means of a modified bicycle 5, on which the front wheel has been replaced by a structure 53 for fixing to the second platform section 42, whereas the rear wheel 52 remains in contact with the first platform section 41, at the periphery thereof.

[0014] In order to drive the merry-go-round, the user sits down on the saddle 51 and turns the pedals 54, and the action of the pedals is transmitted by way of the chain 55 to the rear wheel 52 which, by friction, brings about the rotation of the assembly consisting of the first platform section 41 and the rotating shaft 1.

[0015] The brake (not shown) is provided by means of a bicycle brake, based on two shoes which brake the driving wheel 55.

[0016] In addition, the merry-go-round which is described may incorporate a system for counting the number of passengers who make use of same.

[0017] The system can be located in the structure 21.

[0018] By means of the use of sensors based on parallel plate capacitors (or another equivalent sensor) it is possible to detect an increase in weight of the seats 3 of, for example 15 kg, generating an electrical discharge which causes a counting apparatus, for example of conventional type, to increase its count by one.

[0019] The counting apparatus may be provided with a system for transmitting to another site the data stored in the counter, for example, in real time.

[0020] The energy required for the functioning of the counting system may, for example, be provided by an electrical generator which transforms the rotational energy of the merry-go-round into electrical energy, in conjunction with a battery.

[0021] Although the invention has been described with respect to preferred exemplary embodiments, these

should not be regarded as limiting the invention, which will be defined by the widest interpretation of the following claims.

Claims

1. A merry-go-round which comprises a podium from which projects a vertical rotating shaft which has on its upper part a structure from which are suspended the seats of the merry-go-round, **characterized in that** the upper surface of the podium has a first circular platform section firmly secured to the vertical shaft and which surrounds same, and a second platform section coaxial to the first platform section and which surrounds the latter, the merry-go-round also including a pedal driving system which is connected to a driving wheel that is in contact with the first platform section, such that the first platform section is driven when the pedals are rotated, thereby causing the vertical shaft to rotate.

2. A merry-go-round, according to claim 1, **characterized in that** the driving wheel drives the first platform section by means of friction by the wheel being in contact with the first platform section.

3. A merry-go-round, according to claim 2, **characterized in that** the contact of the driving wheel with the first platform section occurs on the periphery of the platform section.

4. A merry-go-round, according to any one of claims 1 to 3, **characterized in that** the amusement posts are seats in a circular arrangement.

5. A merry-go-round, according to any one of claims 1 to 3, **characterized in that** the podium has a levelling means.

6. A merry-go-round, according to any one of claims 1 to 4, **characterized in that** the pedals drive the wheel by way of a chain.

7. A merry-go-round, **characterized in that** it has a saddle for seating the person actuating the pedals.

8. A merry-go-round, according to any one of claims 1 to 6, **characterized in that** it includes brake shoes for braking the driving wheel.

9. A merry-go-round, according to claim 7, **characterized in that** the rotating shaft is connected to the podium by way of two stabilizing bearings located at two points on the podium.

10. A merry-go-round, according to any one of claims 1 to 9, **characterized in that** it comprises a counting system for counting the number of passengers making use of the merry-go-round.

11. A merry-go-round, according to claim 10, **characterized in that** the counting system comprises sensors which detect an increase in the weight of the seats.

12. A merry-go-round, according to claim 11, **characterized in that** said sensors are capable of detecting an increase of 15 kg in the weight of the seats.

13. A merry-go-round, according to any one of claims 10 to 13, **characterized in that** the counting system is fed by an electrical generator which transforms the rotational energy of the merry-go-round into electrical energy, in conjunction with a battery.

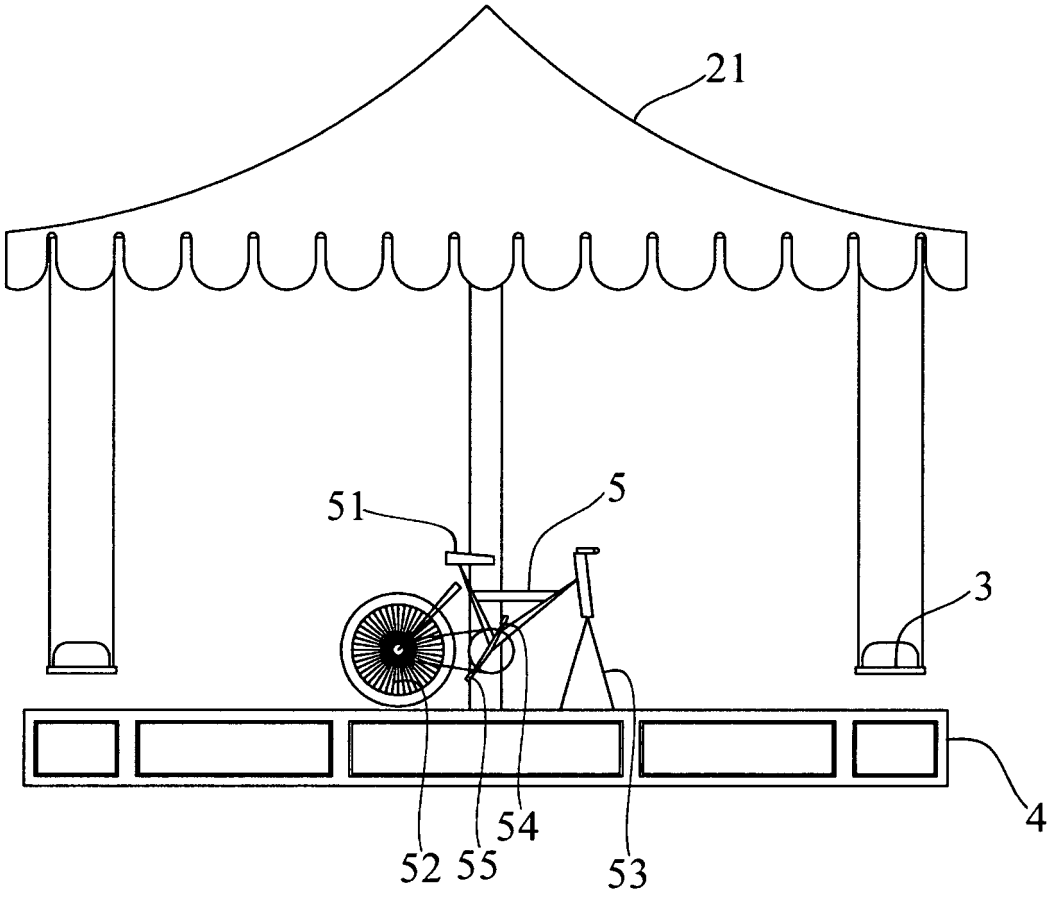

FIG.1

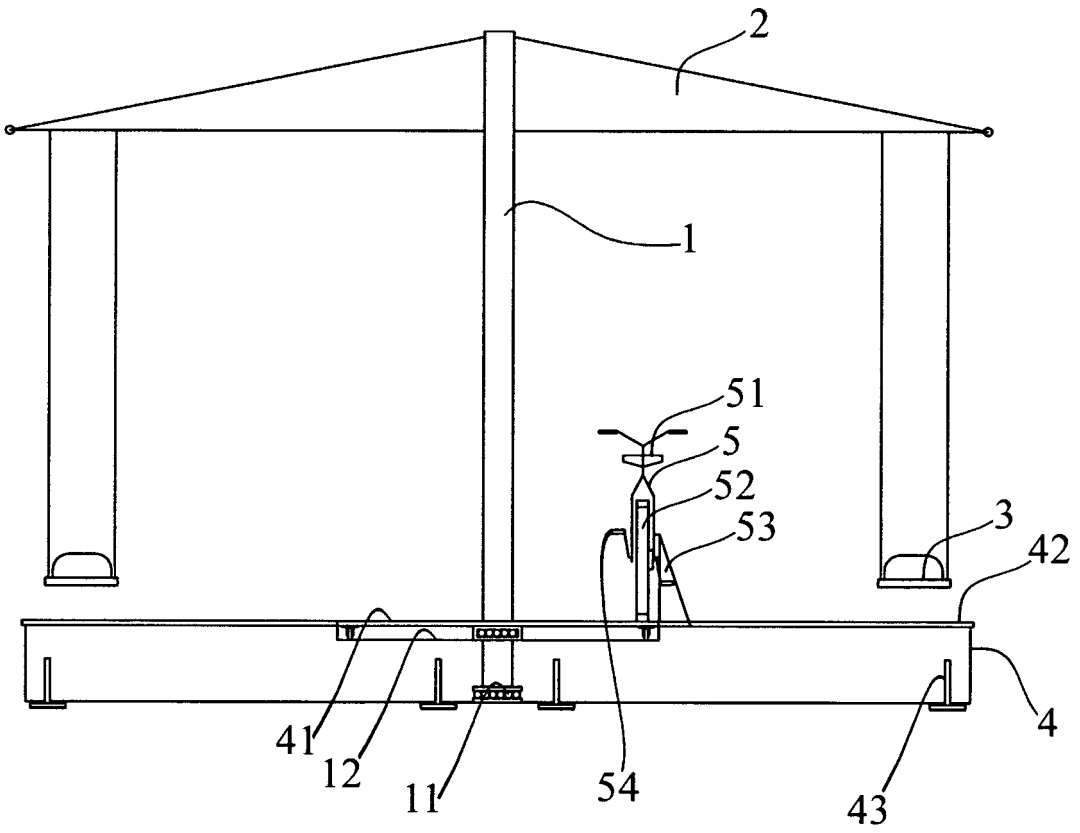

FIG.2

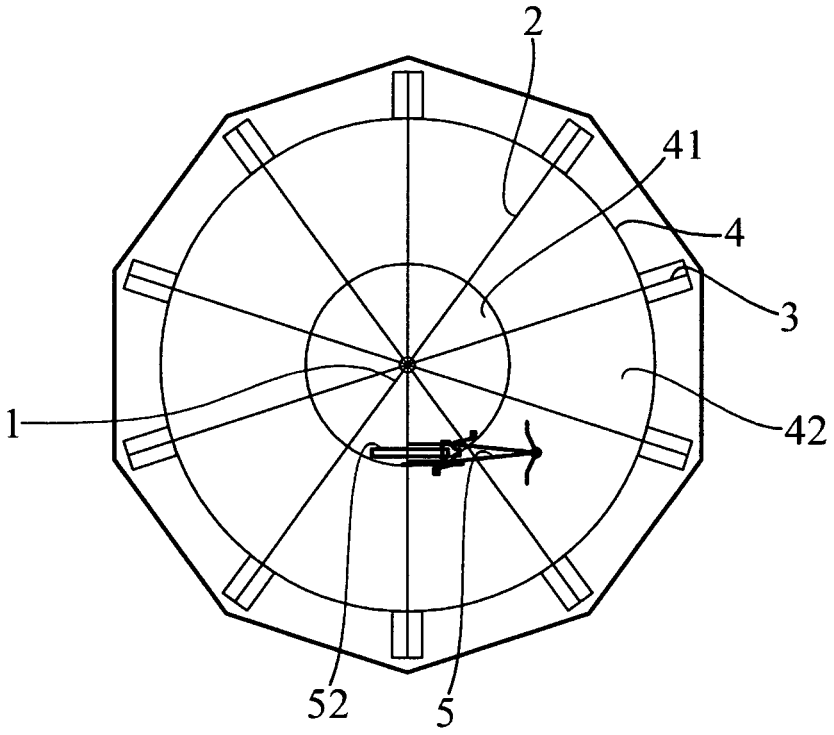

FIG.3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ ES 2010/000256

A. CLASSIFICATION OF SUBJECT MATTER

see extra sheet
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A63G1/+

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

INVENES,EPODOC, WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	"Tiovivo ecológico" (Stand Alone Complex -Ideas Verdes) 08-03-2009. Retrieved from Internet. URL: < http://htca.us.es/blogs/standalonecomplex/2009/03/08/tiovivo-ecologico/ >	1-10 11-13
Y	US 4767117 A (MAIO et al.) 30.08.1988, column 3, lines 21-37; figures.	11-13
X	"Un tiovivo ecológico en todos los aspectos" (SOITU.ES - Arantxa) 07-09-2008. Retrieved from Internet. URL: < http://www.soitu.es/participacion/2008/09/07/u/arantxa_1220817778.html >	1-10
X	"Carrusel ecológico - La rueda animada" (José Carlos Beneroso Barroso) 17-10-2008. Retrieved from Internet. URL: < http://www.carruselecologico.com/carruselrueda.html >	1-10

☒ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:
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"O" document referring to an oral disclosure use, exhibition, or other means
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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other documents , such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
22.July.2010 (22.07.2010)	**(27/07/2010)**
Name and mailing address of the ISA/ O.E.P.M. Paseo de la Castellana, 75 28071 Madrid, España. Facsimile No. 34 91 3495304	Authorized officer Belda Soriano, Leopoldo Telephone No: +34913495585

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES 2010/000256

C (continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of documents, with indication, where appropriate, of the relevant passages	Relevant to claim No.
L	"Tiovivo a pedal". Retrieved from Internet. URL: < http://www.youtube.com/watch?v=tuhbD-hEDMg&NR=1 >	1-10
A	EP 1416615 A1 (WALRAVENS FRANS JOZEF) 06.05.2004,abstract; figures.	13
X	DE 2048911 A1 (VOGT) 13.04.1972, page 4, line 12 - page 6, line 26; figures.	1-4,6,7
A	US 1494038 A (STEPHEN et al) 13.05.1924, page 1, line 25 - page 2, line 13; figures.	1-13
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A	US 5435416 A (SIIKONEN et al.) 25.07.1995, abstract.	10

Form PCT/ISA/210 (continuation of second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/ ES 2010/000256

CLASSIFICATION OF SUBJECT MATTER

A63G 1/00 (2006.01)
A63G 1/12 (2006.01)

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