



(11) **EP 2 489 926 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
22.08.2012 Bulletin 2012/34

(51) Int Cl.:
F21V 15/04^(2006.01) F21S 8/02^(2006.01)

(21) Application number: **12380008.8**

(22) Date of filing: **17.02.2012**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

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(30) Priority: **21.02.2011 ES 201100211**

(54) **Emerging lighting device**

(57) Emerging Lighting Device, preferably located in the ground with optional installation of horizontal or vertical light projection from the surface from which it emerges, with an external flexible cover (1), that includes an upper lock shell (2), mounted over an external cylindrical body (10) from which a lamp holder (3) with one or several light bulbs can emerge, fed by an electric cable (5) all of it mounted on an inner cylinder (5) that contains a magnet (7) at its base.

The external cylindrical body (10) contains an electromagnet (8) which is activated by a coil winding (11) when the switch (9) is closed. When this occurs, the lamp holder simultaneously emerges and the light bulbs are lit.

In the second option, the lamp holder (13) contains a vertical lamp projector (14), and the lamp projector lever (15) makes the lamp holder rotate 180 degrees and activates the light bulbs when the electric circuit is closed by the action of the switch(9).

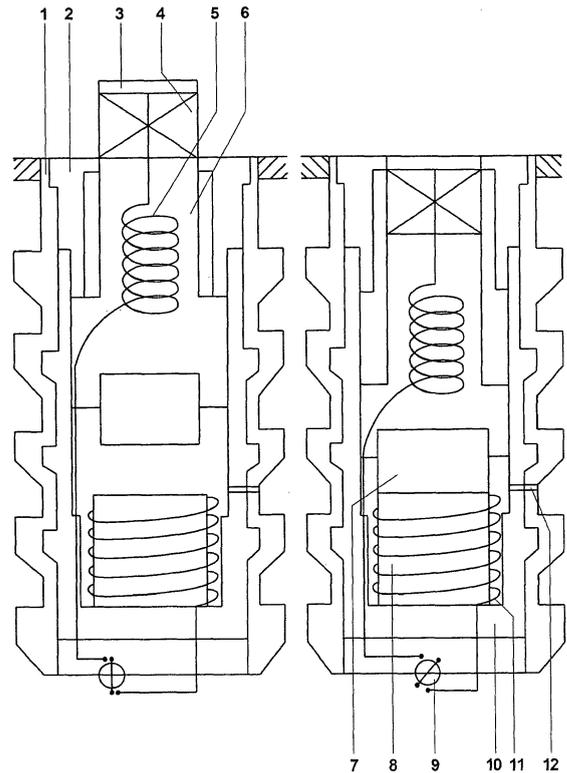


FIGURE 1

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Description**PURPOSE OF THE INVENTION:**

[0001] The invention for which the request and description are put forward is as its title indicates, an emerging lighting device that emerges preferably from the ground to project light.

[0002] The related technology and scope for industrial application of this device, sets its work frame amongst devices that activate in a given moment, according to an established and predefined coding.

BACKGROUND AND PRECEDENTS

[0003] According to the status of technique analysis, there are currently no similar or identical existing products.

[0004] Therefore, the purpose of the presented device offers essential advantages in its application and use, not covered by other products related in the same field.

[0005] The emerging lighting device has a built in lamp or bulb support that can hold one or more lights, allocated inside an inner cylindrical body that can emerge or immerse itself into another cylindrical shaped body. The entire device is normally built into the ground protected by a surrounding layer that can absorb pressure and vibrations produced on the ground.

[0006] The lamp or bulb support can emerge together with the inner cylindrical casing in which there is a magnet that is repelled in a given moment by another electromagnet which is allocated in the external cylinder case. This electromagnet elevates itself, making the external cylinder that contains the lamp or bulb support to emerge to the ground surface, at the same time that the lamps or light bulbs are lit, providing a point of light that can indicate something.

[0007] Once the action that enables the external cylinder to emerge is finished, and due to the electromagnet halting its action, the cylinder returns to its original position, hiding the bulb support again inside its body, and consequently switching the bulbs off.

[0008] This process can be repeated as many times as necessary, enabling the emerging and lighting action at once. The end of the action produces the return of the entire device back under the surface as the lights are switched off.

[0009] From the point of view of the inventor, an expert in this field, the meaning of this invention is an important novelty due to the characteristics and advantages it represents and has an evident industrial and commercial interest.

DESCRIPTION OF THE INVENTION

[0010] The emerging lighting device is formed by an external surrounding flexible material, the external cylindrical case that contains the mechanism and an inner

cylindrical body that can oscillate both on a vertical or horizontal axis in which there are some lamp or bulb supports that can carry one or more light bulbs that are lit when the internal cylinder rotates or emerges from the external cylinder.

[0011] This entire action is produced by an external cause and the light activation as well as the emergency and the timing clock, which controls the timing for the inner cylinder to emerge from the external one and reaches the position in which lights are activated during the pre-established time until it returns to its original position switching the bulbs off.

[0012] The emerging lighting device can be built in to the ground, ceilings and walls, projecting adjustable light as desired in either a vertical or a horizontal projection from the surface from which it emerges.

[0013] Another option for the emerging lighting device is that the inner cylinder which contains the light bulbs can also rotate its upper section 180 degrees through an incorporated system and allocates an electric cable in its mid zone. It contains a magnet in its base.

[0014] The external cylinder body has a protection piece for the upper section of the inner cylinder, mounted on another hidden inner cylinder in the bottom where the electromagnet and the electric cable are located. This is common for both options.

[0015] The electrical conductors from both light bulbs and from the electromagnet are connected to a timing device that allows simultaneously the push action from the electromagnet and emergency and the rotation of the upper part of the inner cylinder and the activation of the bulb or bulbs from the lamp support

[0016] All of this is contained in an external flexible cylinder attached to the wall, ground or ceiling, through some tabs/clips. The external cylinder also has some security tabs, preventing extraction from its set location.

[0017] The design of the invention is comfortable and easy to use and install. The device can also be recycled in an easy effective manner, not harming the environment.

[0018] In order to facilitate the correct and easy comprehension of the invention and its characteristics, several drawings with the description of the device can be found below, where the innovations and advantages of this new device can be noticed.

BRIEF DRAWING DESCRIPTION

[0019] In order to understand the full reach of this new invention, its characteristics and advantages, together with the patent, the request and the device description, attached are two drawings that complement the description in a specific preferred manner for a basic orientation, but not limited to strictly this explanation.

[0020] In Figure 1, the complete emerging lighting device with its fixed lighting head is presented in a section, in both positions, before and after emerged.

[0021] In Figure 2, the complete emerging lighting de-

vice with its horizontal rotating lighting head is presented in a section, in both positions, before and after emerged.

FIGURE 1

- 1) External Flexible Cover
- 2) Upper locking shell
- 3) Lamp or Bulb support
- 4) Horizontal lamp projector
- 5) Electrical cable
- 6) Inner Cylinder
- 7) Magnet
- 8) Electromagnet
- 9) Switch
- 10) External Cylinder Body
- 11) Coil Winding
- 12) Hole to avoid vacuum seal

FIGURE 2

- 13) Spherical Lamp holder
- 14) Vertical Lamp Projector
- 15) Rotating lever for the Lamp Projector

PREFERRED IMPLEMENTATION DESCRIPTION

[0022] Figure1. The emerging lighting device is inserted in a flexible external cover(1) and closed at its top by a locking shell(2), from which the lamp holder or support comes out (3) that holds one or two light bulbs for horizontal projection (4) fed with electricity through an electrical cable(5) all of this inserted into an inner cylinder(6) that has a magnet (7) at its bottom.

[0023] The external cylinder body (10) carries an electromagnet (8) with a coil winding (11) that once the switch (9) is activated, it triggers the electromagnet to repel the magnet (7) during the set time and making the lamp support (3) to emerge, and activating the horizontal light bulbs (4) when the circuit is closed simultaneously with the electromagnet (8) coil winding circuit (11) from the closing of the switch (9).

[0024] In order to avoid air pressure or vacuum effect, the device has a built in hole (12) that connects the internal part of the external cylinder (10) and the external flexible cover(1) allowing the inner section to have contact with the outside, avoiding vacuum seal and or the air to be trapped in the inner section.

[0025] Figure2. In the case of vertical lighting, the emerging lighting device presents an alternative spherical lamp holder (13) that contains a vertical lamp projector (14) and that activates when the entire device described in Figure 1 is activated, making the spherical lamp holder (13) rotate on its centre, through the lamp projector lever (15). In this case the electromagnet (8) does not repel, but it attracts the magnet (7) when the circuit is closed through the action of the switch (9).

Claims

1. a.- Emerging Lighting Device, made from an external flexible cover (1) capable of absorbing all the vibrations and pressure made on the entire device, an external cylindrical body (10) closed in its upper part by a lock shell (2). This group of elements includes inside an inner cylinder (6) which has a lamp support (3) in the upper section where one or several light bulbs (4) can be installed and that receive electricity through a cable (5) and with a magnet (7) in the lower section.
2. a.- Emerging Lighting Device, with the characteristic that the external cylindrical body (10) contains an electromagnet (8) which is activated through a coil winding (11) when the electric circuit is closed through a switch (9). In order to avoid the vacuum effect or air compression when the inner cylinder (6) oscillates upwards or downwards, a small hole (12) has been made that connects the external cylinder body (10) with the outside external layer or cover (1).
3. a.- Emerging Lighting Device with the characteristic that the lamp holder (3) can optionally be replaced by a specific spherical lamp holder (13) which contains a vertical lamp projector (14), the spherical lamp holder (13) and that turns over its own horizontal axis 180 degrees and projects light from its vertical lamp projector to the outside. In order to achieve this, the spherical lamp holder (13) uses a rotating lever on the lamp holder that connected to the inner cylinder (6) and when this one moves downwards enables the spherical lamp holder (13) to rotate 180 degrees.
4. a.- Emerging Lighting Device that according to the previous requests is **characterized by** the fact that its switch (9) can close an electrical circuit that activates the coil winding (11) and the electromagnet (8), at the same time it activates the light bulbs of horizontal projection (4) in the case the circuit is activated by the repelling of the magnet (7) from the inner cylinder (6), making the lamp holder (3) come out from the lock shell (2) the vertical projection light bulbs (14) when using the spherical lamp holder (13) but in this case by the attraction action of the magnet, causing it to rotate and project light from the vertical light projector (14) having rotated 180 degrees through the action of the lamp holder lever (15).

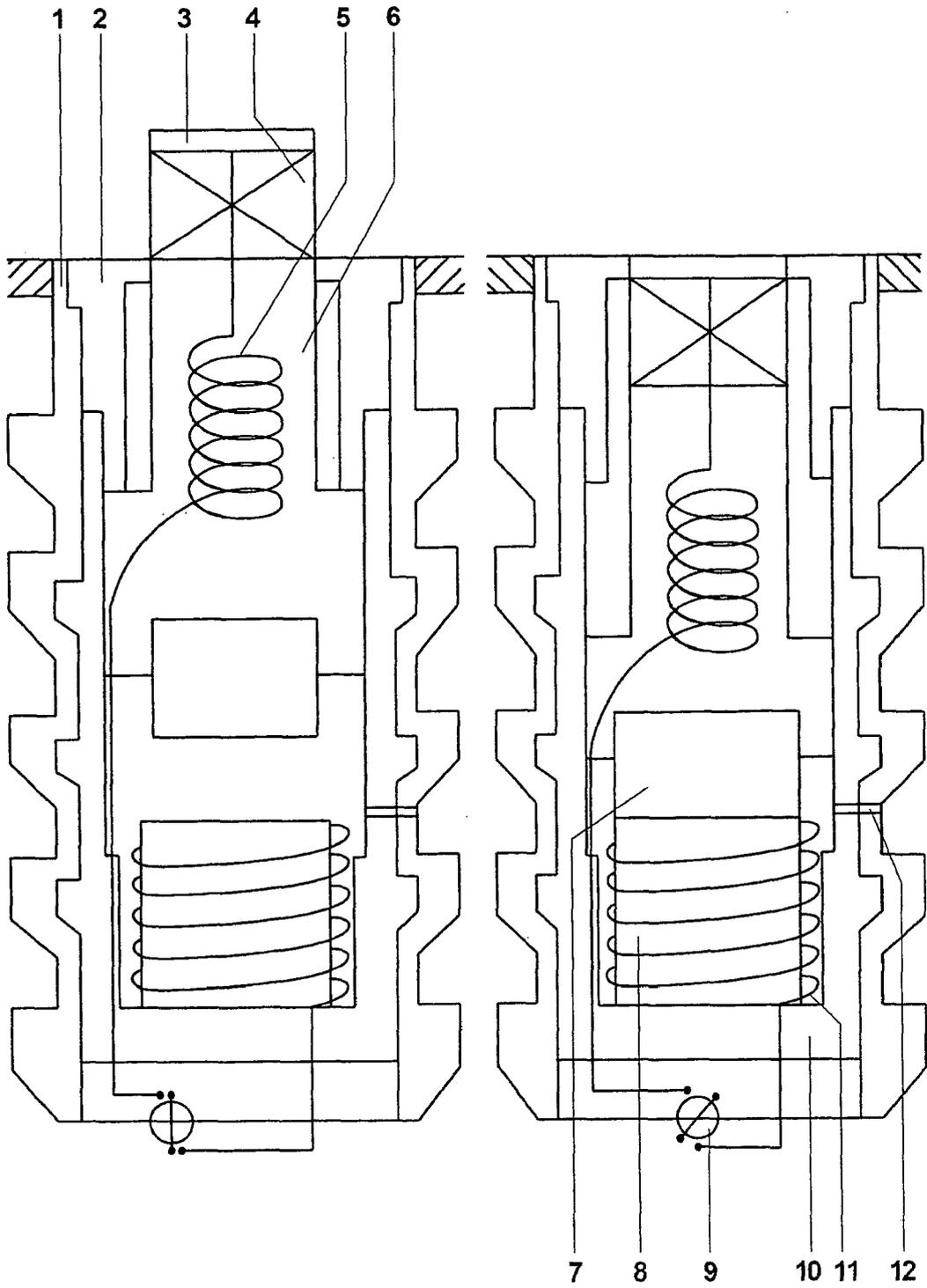


FIGURE 1

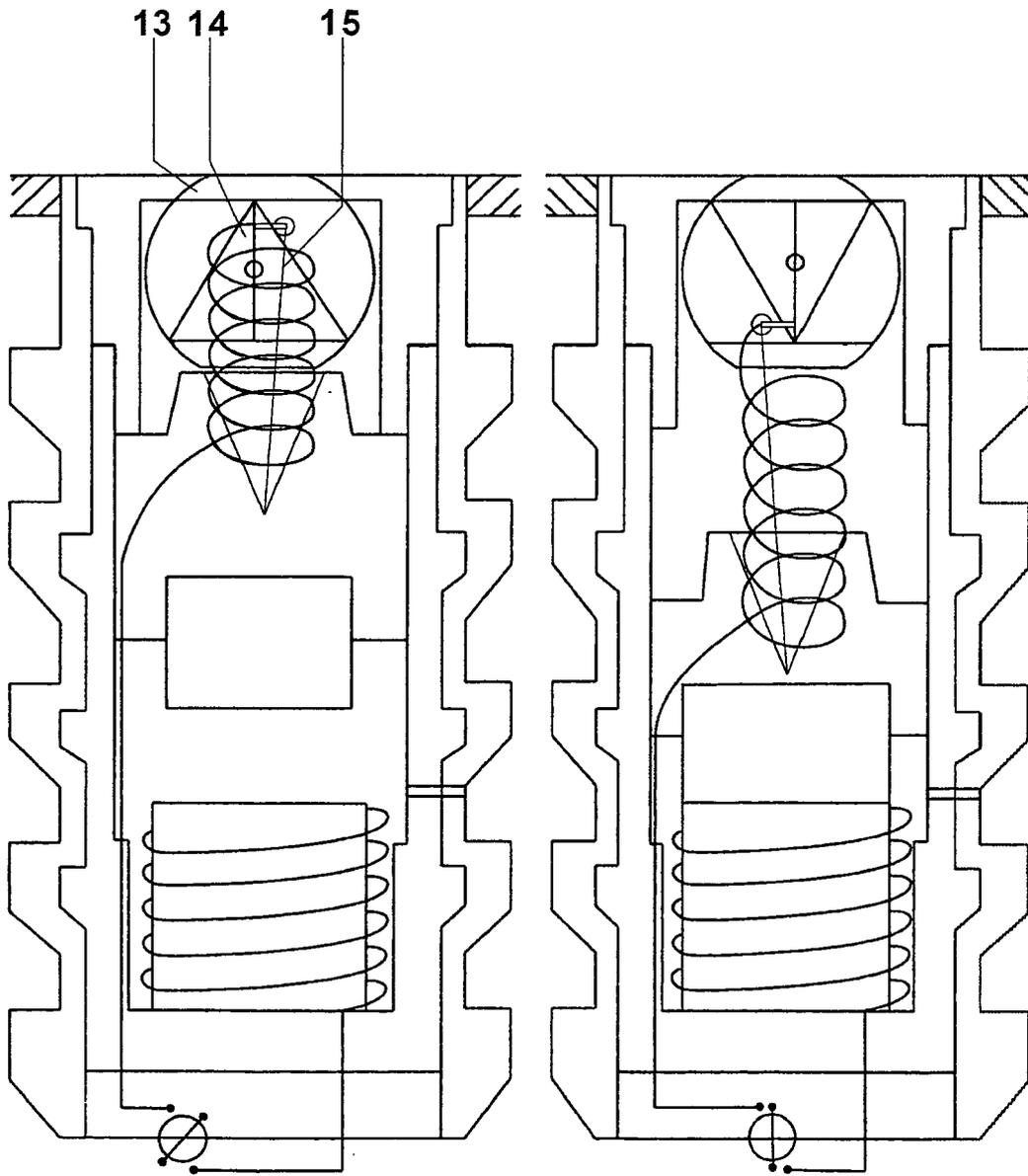


FIGURE 2



EUROPEAN SEARCH REPORT

Application Number
EP 12 38 0008

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
			F21V F21S
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 21 May 2012	Examiner Arboreanu, Antoniu
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

21-05-2012

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82