

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 0 692 671 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
17.01.1996 Bulletin 1996/03

(51) Int Cl.⁶: **F21V 11/18**(21) Application number: **95670007.4**(22) Date of filing: **07.07.1995**

(84) Designated Contracting States:
DE ES FR GB PT

(71) Applicant:
Abrantes Candeias, Joaquim Antonio
P-2855 Corroios (PT)

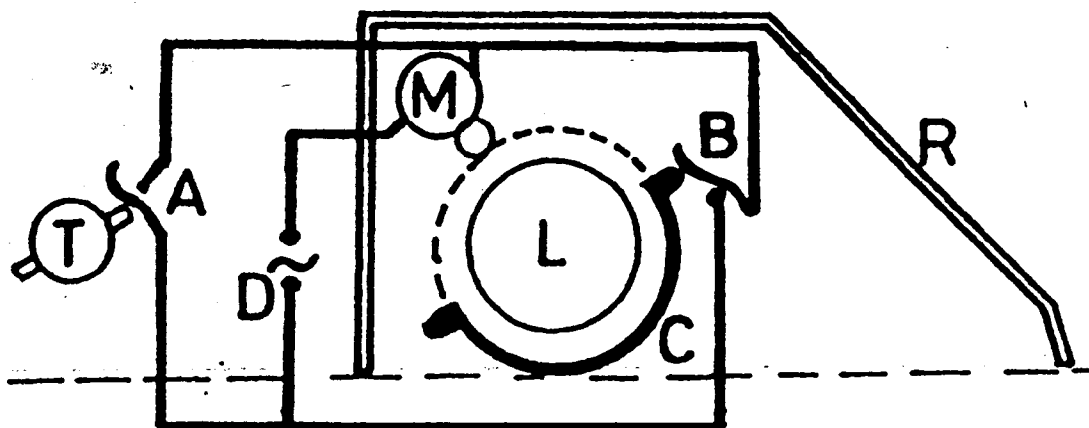
(30) Priority: **11.07.1994 PT 10154794**

(72) Inventor: **Abrantes Candeias, Joaquim Antonio**
P-2855 Corroios (PT)

(54) **System for regulating the luminous intensity of fluorescent lamps**

(57) System for regulating the luminous intensity of fluorescent lamps by progressively obstructing, respectively screening out, the emitted light. In its use in aquaria, the system includes a temporiser (T) which switches on the lamp (L) and closes a switch (A). Switch (A) starts a motor (M) operatively connected to a screen (C). Upon turning, screen (C) frees a switch blade (B) in an auxiliary circuit, allowing the motor to continue rotating the screen after switch (A) had opened again. When screen (C) has completed half a turn, it opens switch (B), thus stopping any further movement of the screen (C).

The temporiser (T) switches on the lamp (L) in the morning before screening out the light and switches it off at night after its full concealing.

**EP 0 692 671 A1**

Description

Some systems need illumination by fluorescent lighting. The use of the starter in the functioning of these lights does not allow for regulation of the intensity of light, as happens with incandescent lamps, starting at zero and reaching a maximum intensity to imitate the rising and setting of the sun - for use in aquariums for example. The shock is prejudicial for plants and fish alike, and in some cases even kills them.

This system intends to solve this problem very simply by the progressive concealing of the lamp, switching it off completely only after total concealing, and switching it on again before it is uncovered again. There is a fixed reflector and a movable part, semi-cylindrical in shape for example, which produces periodic concealing on rotating around the lamp. The electronic part which produces the slow, clockwise rotation, also switches the lamp on and off at pre-determined times by the processes already existing on the market.

Provisions can also be made for a more rapid opening of the light, being gradual only in the case of use in aquariums to avoid shocking the fish, and afterwards maintaining a constant intensity, switching on the system again at the time to switch off the light - once again a gradual process

Claims

1 - A system for regulating the luminous intensity of fluorescent lamps, characterised by a rotating screen coupled to the reflectors, which, on rotating, progressively covers the lamp and vice-versa, imitating the rising and setting of the sun. The clock type mechanism which makes the screen rotate, switches the lamp on and off at predetermined times by the processes already used, avoiding unnecessary consumption of power during concealing

2 - A system for regulating the luminous intensity of fluorescent lamps, in accordance with the first requirements, characterised by gradually increasing the rotation of the screen after switching on the light, and then remaining in the maximum luminous intensity position, and again setting the system in motion and gradually concealing the lamp shortly before switching the light off.

3 - A system for regulating the luminous intensity of fluorescent lamps, in accordance with the first and second requirement, characterised by various screens, one for each lamp, in the reflectors which use multiple lamps.

4 - A system for regulating the luminous intensity of fluorescent lamps, in accordance with the three previous requirements, characterised by a screen

made of two pieces side by side, sliding and fixable to regulate the duration of the period of concealing of the lamp.

5 - A system for regulating the luminous intensity of fluorescent lamps, in accordance with the second requirement, characterised by a small auxiliary motor powered by energy supplied from two parallel circuits:

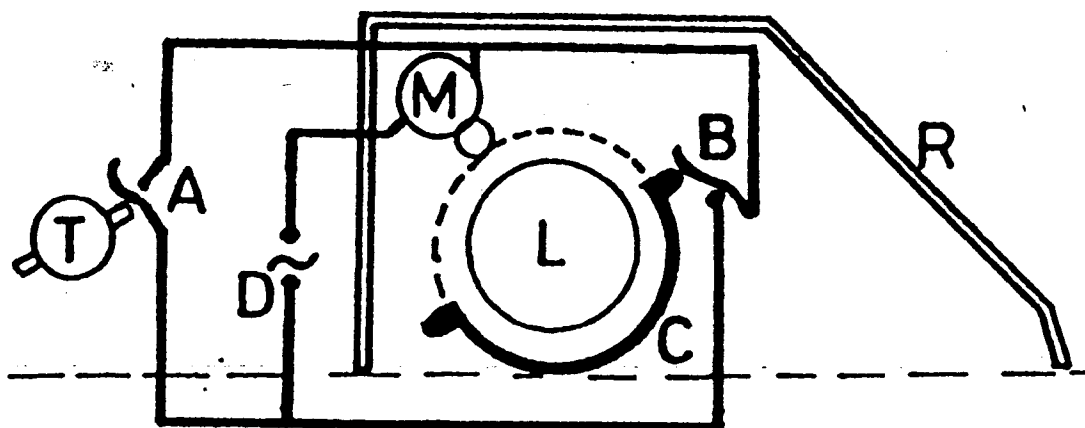
- One is momentarily closed by a temporiser, which can be that of the lamp, to start the movement of the motor
- The other, which closes immediately following the beginning of the movement until the screen makes a complete half turn, which mechanically opens the circuit in a pre-determined position, stopping the whole mechanism

After the desired period of time the temporiser re-initiates the whole process.

6 - A system for regulating the luminous intensity, in accordance with the first, third and fourth requirements characterised by a rotating screen making two complete turns per day:

- One, corresponding to the day, with the lamp switched on.
- The other corresponding to the night, with the lamp switched off.

On rotating the screen activates a circuit which modifies alternately the switched on and switched off position of the lamp.





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 67 0007

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	CH-A-378 267 (BATTAGLIA) * page 1, line 1 - line 13 * * page 1, line 55 - page 2, line 4 * * page 2, line 19 - line 27 * * page 2, line 42 - line 67; figures 1,2,4,5 * -----	1,2,5	F21V11/18
			TECHNICAL FIELDS SEARCHED (Int.Cl.6) F21V F21P
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28 September 1995	Examiner Martin, C
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			

EPO FORM 1503 01.92 (POMC01)