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⑤④ **System for the automatic cleaning of screens of electric lighting.**

⑤⑦ System for the automatic cleaning of screens of electric lighting, which is composed of:

- a) a unit composed by a light emitter (1), a reflector (2) that projects the reflected light, and a screen (3), which is larger in diameter than the reflector (2), and the said unit is attached to a motor/reductor by the end (5),
- b) a group of brushes (6), also joined to the motor/reductor by the end (7),
- c) a regulator mechanism (8) that acts on the motor/reductor and on the light emitter (1).

The whole unit can rotate on itself, and can make a certain number of turns, and during that rotation movement the exterior surface of the screen (3) coincides with the brushes (6), which can also rotate on themselves.

## Description

As the text says, the present invention refers to a system for the automatic cleaning of screens of electric lighting.

In the systems for illuminating, specially the ones used for lighting outdoors, a film of dirt is frequently accumulated on its surface, which is usually caused by atmospheric or ambient agents.

This film of dirt is, usually, firmly stuck to the surface of the screen, because there is a great difference in temperature between the interior and exterior surfaces of the screen.

The greatest disadvantage that this dirt provokes is the decreasing in the pass of artificial light, which provokes the system to work in lower standards than the ones it can really achieve. Because of that, and in order to periodically eliminate this dirt, a maintenance of the screens is needed.

Nowadays, the said maintenance is done manually, with the help of ladders of appropriate telescopic arms. It is important to note the big problems that this manual system brings about, because in heavily circulated roads this maintenance has to be done very frequently and, in order to do so, the traffic has to be stopped, at least part of it, with the consequent prejudice that this causes on the users.

Moreover, it is important to notice the high cost of the manual maintenance used nowadays.

In the present invention there are no such problems. This is a secure and reliable system in which the street lamp cleans its own screen every day before its lamp is switched on.

This system includes a light emitter, a reflector that projects the light sent out, and a screen which is bigger than the reflector, forming a unit which, held by a stand from one of its ends, can rotate on itself, helped by a motor/reductor element,

There is also a group of brushes closely related to the said element, that can also rotate on themselves, and are located in the opposite side of the screen.

All the system is regulated by a dispositive which, at the time when it receives the tension from the network, activates the motor/reductor, that starts a rotation movement of the unit and of the brushes that rotate in an independent way, in which the screen and the brushes concur during their movement, which leads to the elimination of the dirt accumulated in the screen of the street lamp.

The regulatory mechanism controls the number of turns that they have to realize, and assures that the screen remains on the initial position before switching the tension from the motor/reductor to the lamp.

For a better understanding of this explanation, the drawings' page is referred, which is included in this memorandum, and which, because of its explicative purposes, it should be understood that it gives no limitation on the scope of the present invention.

In the drawings:

-Figure 1 is a prespective view of the lamp as a whole, without the protective cover and in at

rest position.

-Figure 2 is a prespective view of the lamp as a whole, without the protective cover and in turning position.

The lamp is composed of three parts:

a) the light emitting unit (1), the reflector (2) that projects the emitted light, and the screen (3) which is larger in diameter than the reflector (2). The unit is attached to the motor/reductor by the end (5),

b) the brushes (6), located on the opposite side of the screen (3), joined to the motor/reductor (5) by the end (7),

c) the regulator mechanism (8) that acts on the motor/reductor (5) and the light emitter (1).

These three parts are held by the general structure (9).

When the tension is received from the network, the regulatory mechanism (8) switches on the motor/reductor, which starts the rotating movement of the brushes (6) and the reflector (2) and screen (3) unit. As the screen's (3) diameter is larger than the reflector's (2) diameter, this last structure never interacts with the brushes, but they do coincide during their rotation movement with the screen (3), and when that occurs, the dirt is removed from the exterior surface of the screen (3).

Once the turns previously programmed by the regulatory mechanism (8) are completed, the said mechanism assures that the screen (3) remains in its original position, shown in Figure 1, which is done before switching the tension to the light emitter (1).

In the described examples and drawings a number of two brushes and a general cilindric structure have been described. The reason for this particular number of brushes and this structure is due to the fact that there are two plains in the described screen of this example. In spite of that, and as a general rule, the brushes should be in a number and structure that allows them to cover all the screen's surface during their movement.

The difference in diameter between the screen (3) and the reflector (2) is due to that, when the light emitter (1) is switched on, the heat produced doesn't deteriorate the brushes (6). Moreover, because the reflector (2) doesn't need to be cleaned.

As it is easily understood, this is a simple and practical system, in which, without needing any manual system, the lamp's screen is kept clean very efficiently.

In spite of everything exposed until now, there should not be any objection in changing or modifying any of the described conditions of this dispositive, whenever it does not change or alterate its essence, which is pointed out in the following claims.

## Claims

1. System for the automatic cleaning of

screens of electric lighting, specifically in street lamps which are composed by a light emitter occluded between a reflector, which projects the emitted light, and a screen, which is larger in diameter than the reflector, and this unit is attached by one end to a stand, and which is characterized by the fact that this unit can rotate on itself, and can make a certain number of turns, and during that rotation movement the exterior surface of the screen coincides with, at least, one brush, which can also turn over itself, and these brushes, while they turn, establish rotating bodies in which their exterior surface concurs with the screen.

2. System for the automatic cleaning of screens of electric lighting, as explained in Claim 1, characterized by having a regulatory mechanism, which establishes a previously set cycle, following which, and after having received the tension from the network, a series of rotating movements in the unit and in the brushes start, and ending with the screen in its original position before switching on the lamp.

3. System for the automatic cleaning of screens of electric lighting, as explained in Claim 1, characterized by the fact that the rotating movement of the screen-reflector unit and of the brushes is done synchronically, and this movement is given by a motor/reductor and its transmittion.

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FIG. 1

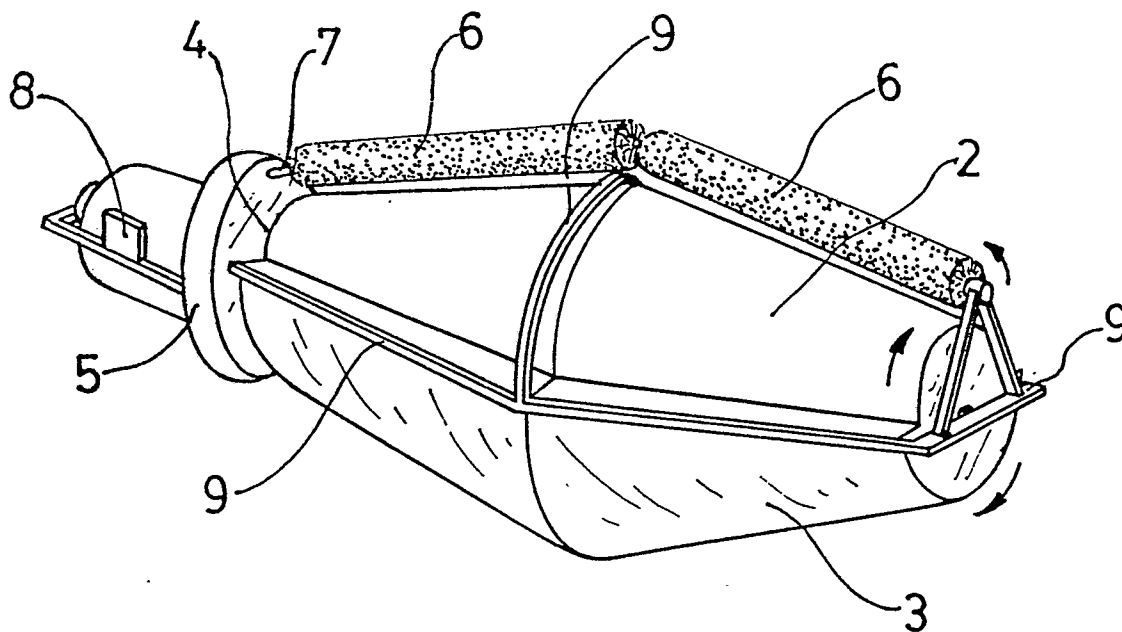


FIG. 2

