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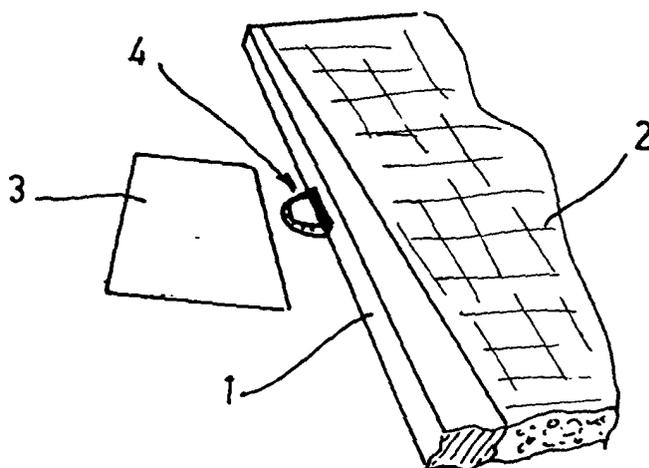
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(54) **Lighting system for road signals painted or applied onto the ground**

(57) The invention refers to the field of ground signals and in particular of road signals, and more precisely it refers to a lighting system for public or private signals that are painted or applied to the ground. The system provides for a combination of a box-shaped member ca-

pable of being walked onto and anyway resisting to motor-vehicles passing over there and adapted to contain a lighting source adapted to strike the signals painted or applied onto the road blanket; signals painting or application through or including highly reflecting and/or fluorescent paints.

FIG.1



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Description

[0001] The present invention refers to a lighting system for signals that are painted or applied onto the ground, particularly for road signals.

[0002] As known, different types of signals are painted onto the road blanket, the most frequent of which are pedestrian crossings, stop signals or stop lines, etc.

[0003] In the points where most traffic occurs, these signals are lighted from the top through lamps supported by poles and cross-members placed at a height of four meters with negative environmental impact, high installation and operating costs.

[0004] Where there is no specific lighting for the signals, reflecting paints or reflex reflectors have been used, that are lighted by the car lamps light, obviously only upon their passage and only when they are stricken by said light from a certain angle.

[0005] Object of the present invention is realising a permanent lighting of ground signals with a practically null environmental impact and with low installation and operating consumption.

[0006] These objects are all reached by the lighting system for ground signals, particularly road signals, object of the present invention, that is characterised for what is provided in the below-listed claims and in particular in that it comprises

[0007] These and other features will be better pointed out by the following description of some embodiments shown, merely as a non-limiting example, in the enclosed tables of drawing in which:

- figure 1 shows in a perspective view a pedestrian crossing to which the present system is applied;
- figure 2 shows a box-shaped element, being part of the system, in a front view and according to an embodiment;
- figure 3 shows the box-shaped element in a top plan view;
- figure 4 shows in another perspective view a box-shaped element according to another embodiment.

[0008] With reference to the figures, 1 designates the kerb of a sidewalk 2 and 3 designates a band signalling a pedestrian crossing.

[0009] 4 designates a box-shaped element placed on the ground next to or adherent to the kerb 1 or also inserted inside the kerb itself.

[0010] The box-shaped element 4 is realised with a material that is highly resistant to squashing in order not to be distorted even when motor-vehicles run over it. The airtight box-shaped element contains one or more lighting sources, designated with 5, that are directed towards the pedestrian bands in order to strike them with luminous beams. More precisely, at least one of said sources will strike the signals, other ones could rise the attention of passing drivers.

[0011] The pedestrian crossings, or any other type of

signals, are realised with a highly reflecting and/or fluorescent paint applied to the whole surface of the road signals or only to their outlines. In some cases, it could be applied onto the vertical side of the kerbs next to the signals or to signal the presence of junctions, such as for example in circle-junctions and/or in connection roads or crossings in general.

[0012] The luminous intensity produced by the element is reproduced in the same way by the pre-painted parts that will reflect the same luminous intensity in different, fixed, intermittent or sliding, modes, behaving exactly like the lighting source with the advantage of propagating this intensity at long distances, thereby creating a wider surface that can be thereby easily recognised, starting from pedestrians and getting to drivers of moving vehicles.

[0013] The lighting source can be made with different colours, provided depending on the characteristic signalling to be performed and thereby in compliance with the standards in force.

[0014] The lighting source mode can be through lighting with LED, optical fibres, luminescent ribbons or any source of light.

[0015] The electric supply of the box-shaped element can be performed through low-voltage electric energy, batteries or sun energy.

[0016] The element can be of a circular shape, as in the example shown in figures 2 and 3, or semicircular, as shown in fig. 1, or any other shape, such as for example a prism, as show in figure 4, and anyway with minimum projection from the ground.

[0017] The distribution of lighting sources or luminous beams can be arranged at 360° or 180° according to the box-shaped element configuration in order both to strike the signal and to warn the driver about the presence of obstacles or dangers.

[0018] The system can be used for private structures, such as for example airports or stations or plants.

[0019] The shape of the box-shaped element is such as not to obstacle the walk of pedestrians and/or disabled people.

[0020] An acoustic signal can be inserted therein to warn handicapped people (blind people) about the presence of an obstacle or danger and/or to point out the area adapted for crossing.

[0021] The highly-reflecting paint can be fixed to the road blanket through painting or through securing to a support on which the paint is included. The support can be of the bituminous type and thereby hot-fixed to the road blanket, or of plastic material and therefore secured with glues or mechanical means.

Claims

1. Lighting system for signals painted onto the ground, particularly for road signals, **characterised in that** it comprises a box-shaped element that can be

walked onto and that anyway is resistant to the passage of motor-vehicles thereon and adapted to contain at least one lighting source adapted to strike the signals that are painted or applied onto the road blanket.

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2. Lighting system for signals painted onto the ground, particularly for road signals, **characterised in that** it comprises in combination: a box-shaped element that can be walked on and that anyway is resistant to the passage of motor-vehicles thereon and adapted to contain one or more lighting sources adapted to strike the signals that are painted or applied onto the road blanket; signals painting or application through or including highly reflecting and/or fluorescent paints. 10
3. System according to any one of the previous claims, **characterised in that** the lighting source is fixed or intermittent or sliding. 15 20
4. System according to any one of claims 1 or 2, **characterised in that** the lighting source has a colour that depends on the signalling to be performed and in compliance with the standards in force. 25
5. System according to any one of claims 1 or 2, **characterised in that** the lighting source is of the LED type. 30
6. System according to any one of claims 1 or 2, **characterised in that** the lighting source is with optic fibres.
7. System according to any one of claims 1 or 2, **characterised in that** the lighting source is with luminescent ribbons. 35
8. System according to any one of claims 1 or 2, **characterised in that** it comprises a low-voltage or batteries or solar panels electric supply for the lighting sources. 40

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FIG.1

