

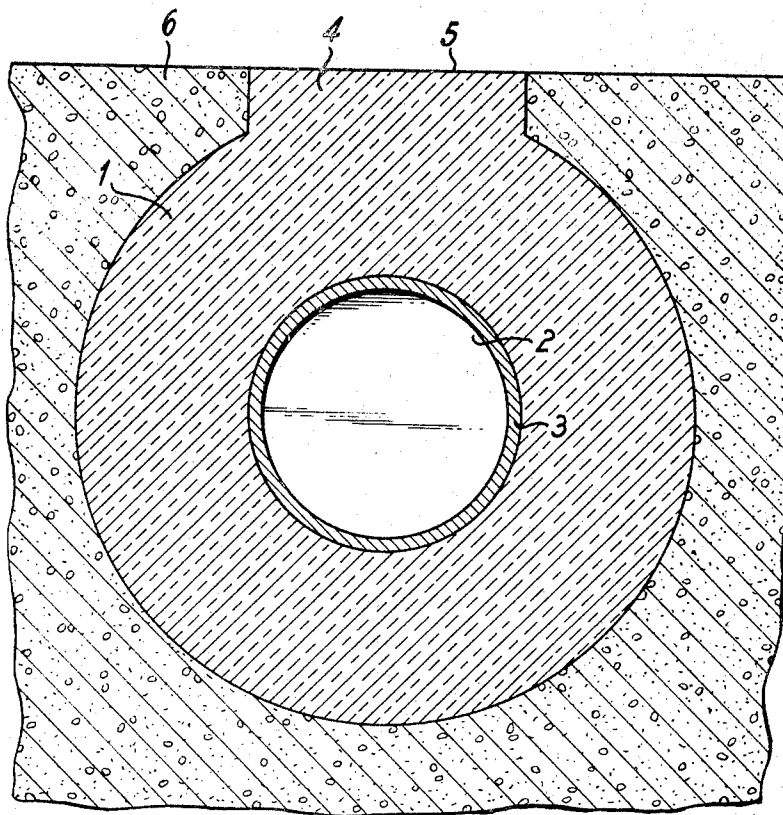
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MARKINGS FOR ROADWAYS, PAVEMENTS AND OTHER SURFACES

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MARKINGS FOR ROADWAYS, PAVEMENTS AND OTHER SURFACES

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ABSTRACT OF THE DISCLOSURE

A roadway or other surface marking comprising a hollow transparent body defining an internal surface and having a smooth external surface, the external surface being substantially flush and in the plane of a roadway surface to be marked, and a fluorescent layer is applied to the internal surface of the hollow transparent body.

The present invention relates to a marking for roadways, open spaces, pavements (sidewalks) or other surfaces and is particularly suitable for the control and ensuring the safety of traffic in towns and also on country roads.

For this purpose it has hitherto been usual to provide white markings on street surfaces. For example, there have been provided for defining individual traffic lanes one or more parallel, in part interrupted white strips. In place of these there have also been provided rows of polished metal knobs, so-called street studs, or so-called cats' eyes which reflect incident light. For the marking of pedestrian crossings, the so-called zebra crossings are made of individual closely-spaced white strips, and hitherto, thin layers of a white material, such as asphalt, have been employed.

Such street markings have proved every important and necessary for the safety of traffic, since on many occasions, for example in fog, they provide the only means for orientating road users, in particular drivers, in relation to the direction of the road.

It is one object of the present invention to provide markings for roadways, open spaces, pavements (sidewalks) or other surfaces which are at any time of day or night equally effective and which markings have a long useful life.

The markings hitherto proposed have a number of disadvantages, which in consideration of the substantial importance thereof are undesirable and can even be dangerous. By the use of white, the durability of the marking is limited, since during the passage of time the color is lost. Moreover, street dirt, particularly at hot and damp times of the year becomes so thick and greasy, that markings of colored or white asphalt become completely obliterated and cannot be seen. The road studs which are set in street surfaces give rise to unevenness, which can be annoying both for drivers and pedestrians.

It is, therefore, another object of the present invention to provide roadway or other surface markings which comprise a hollow transparent body having a smooth external or top surface disposed substantially in the plane of a surface to be marked and a fluorescent layer arranged at the internal surface of the hollow body.

For the manufacture of the transparent hollow body, glass is preferably employed. This material has the advantage that it is completely weather-proof, abrasion resistant and has good durability. Since glass can be formed in molds, it is possible to give the glass bodies the required shape easily, and all the requirements for these marking bodies can be taken into account. The surface and the hollow space of the marking bodies can for ex-

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ample be constructed such that fluorescent light from the hollow space is directed particularly intensively at the surface being marked in a plane containing the surface of the hollow body.

For the manufacture of transparent hollow bodies a synthetic-resin material can be used in place of glass.

With these and other objects in view which will become apparent in the following detailed description, the present invention will be clearly understood in connection with the accompanying drawing, in which the only figure is a diagrammatic cross-section of the marking means designed in accordance with the present invention.

Referring now to the drawing, the marking means comprises a spherical or cylindrical transparent hollow body 1 which has a hollow space 2 and also is of a suitable form and size for a particular purpose. If, for example, point-forming markings are required, then the spherical form is employed; for strip-forming markings a cylindrical hollow body 1 is employed.

On the inner wall of the hollow space 2 of the transparent hollow body 1 a fluorescent layer 3 is provided. In order to prevent the penetration of dirt and water into the hollow space 2, both ends of the hollow body are tightly closed.

The spherical or cylindrical form of the hollow body 1 is formed at its upper part 4 to give a circular plate or a longitudinally-extending strip surface 5. This surface 5 of the hollow body 1 lies, on insertion of the marking into the street, in the same plane as the street surface 6.

By means of seamless or jointless successive rows of a plurality of hollow bodies 1, according to requirements, uninterrupted or interrupted marking lines can be provided. The marking of pedestrian crossings can be arranged by suitable arrangement of the light strips in the surface of the roadway. Obviously, in addition, directional arrows, symbols, numbers and letters can be formed from the hollow bodies 1 or from various hollow bodies 1 arranged together and inserted into the surface of the roadway.

By suitable shaping of the hollow body 1, it is possible to prevent it from working loose in the roadway surface.

The marking, as hereinbefore particularly described, has the advantage, that it is equally clear under night lighting, as during the day and operates satisfactorily for a long time.

While I have disclosed one embodiment of the present invention, it is to be understood that this embodiment is given by example only and not in a limiting sense, the scope of the present invention being determined by the objects and the claims.

I claim:

1. A roadway or other surface marking, comprising: a transparent body having a substantially annular circular cross-section including an inner circumferential surface defining a hollow interior and an outer circumferential surface, the diameter of said hollow interior is larger than the radial distance between said inner and outer surfaces, said outer circumferential surface adapted to be completely inserted into a complementary hole in a ground surface, said outer surface including a raised three-sided substantially rectangular cross-section periphery extending substantially vertically from said outer circumferential surface directly above said hollow interior and including lateral side edges spaced substantially equal to the diameter of said inner circumferential surface and including a smooth horizontal upper surface therebetween, said hole in said ground surface complementary to said

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lateral side edges directly adjacent said ground surface,
 said transparent body adapted to be complementarily
 positioned in said hole with said horizontal upper
 surfaces located in the plane of the surface of said
 ground surface, and
 a fluorescent layer applied to the entire of said inner
 circumferential surface of said transparent body.
 2. The marking, as set forth in claim 1, wherein:
 the material of said hollow transparent body is glass. 10
 3. The marking, as set forth in claim 1, wherein:
 the material of said hollow transparent body is a syn-
 thetic-resin.
 4. The marking, as set forth in claim 1, wherein:
 said smooth upper surface is formed as a directional 15
 arrow.
 5. The marking, as set forth in claim 1, wherein:
 said smooth upper surface is formed as a number.
 6. The marking, as set forth in claim 1, wherein:
 said smooth upper surface is formed as a letter. 20
 7. The marking, as set forth in claim 1, wherein:
 said smooth upper surface is formed as a symbol.
 8. The marking, as set forth in claim 1, wherein:
 said smooth upper surface is arranged that it is built
 up to form a symbol.

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9. The marking, as set forth in claim 1, wherein:
 said hollow transparent body has substantially the
 form of a sphere.
 10. The marking as set forth in claim 1, wherein:
 said hollow transparent body has substantially the form
 of a cylinder.
 11. The marking, as set forth in claim 1, wherein:
 said smooth upper surface has the form of a circle.
 12. The marking, as set forth in claim 1, wherein:
 said smooth upper surface has the form of a rectangle.
 13. The marking, as set forth in claim 1, wherein:
 said smooth upper surface has the form of a rectan-
 gular strip.

References Cited

UNITED STATES PATENTS

1,981,206	11/1934	Strauss	94—1.5
2,178,164	10/1939	Dezendorf	94—1.5
2,184,492	12/1939	French	94—1.5
2,329,171	9/1943	Russ	94—1.5
2,489,499	11/1949	Pellar	94—1.5
2,991,698	7/1961	Leubaz	94—1.5
3,164,071	1/1965	Rubenstein	94—1.5

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