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Rijnders

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[54] HALOGEN MOTORCAR LAMP

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[52] **U.S. Cl.** **313/115,** 313/272, 313/316

[51] **Int. Cl.**.....**H01k 1/26**

[58] **Field of Search**.....313/313, 314, 315, 313/317, 316, 272, 115

[56] **References Cited**

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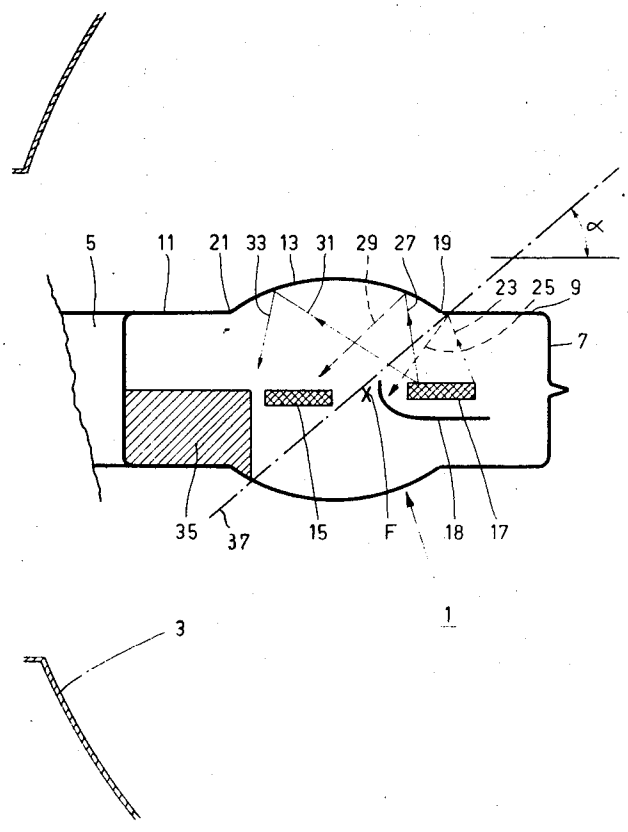
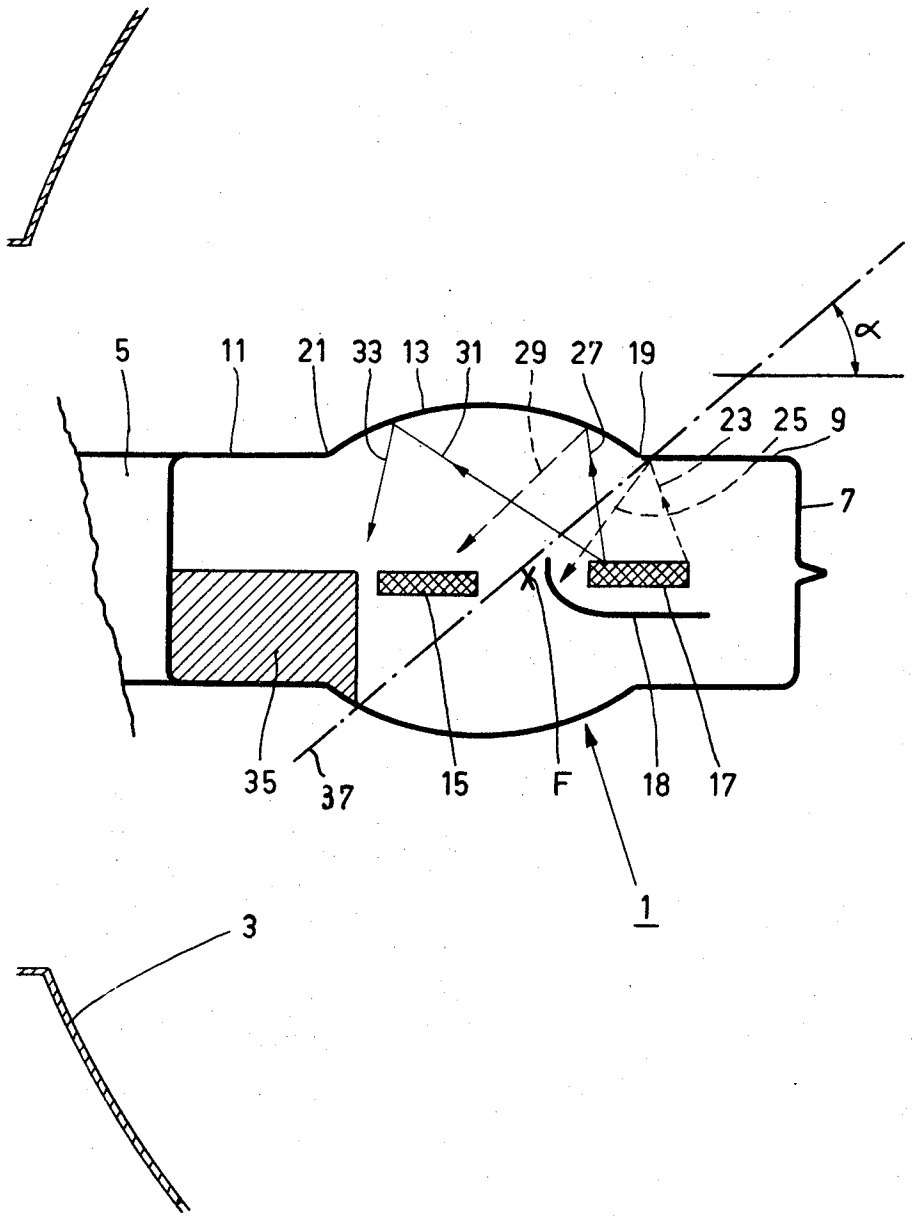
[57] **ABSTRACT**

A halogen filament lamp having two filaments for motorcar headlights. The envelope comprises two cylindrical end portions and a rotationally symmetric widened intermediate part. By suitable choice of the location of the transition between the cylindrical top portion of the envelope and the widened part relative to the location between the end faces of the two filaments facing each other it is achieved that parasitic light sources emanating from the anti-dazzle filament which would supply a dazzling beam do not occur.

2 Claims, 1 Drawing Figure





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HALOGEN MOTORCAR LAMP

The invention relates to a halogen filament lamp comprising a tubular lamp envelope in which a filament for driving light and a filament for anti-dazzle light are stretched axially, the filament for anti-dazzle light being surrounded over part of its circumference by a reflecting screen. Such a halogen filament lamp is known as a twin lamp for vehicle head lights.

Exactly in connection with the increased luminous efficiency per Watt, it has been taken into account in the known lamp that the wall of the tubular lamp envelope reflects the lamp rays originating from the filament for anti-dazzle light, as a result of which an elongate reproduction of said filament is formed inside the lamp envelope which operates as a parasitic light source. When said lamp is arranged in the usual manner in a parabolic reflector, the focus of said reflector is found to lie just in said reproduction. When the anti-dazzle light is switched on, a dazzling main beam caused by said parasitic light source will be radiated in addition to an anti-dazzle light beam.

It is the object of the invention to provide a solution by which said drawback can be avoided.

For that purpose the lamp according to the invention is characterized in that the envelope comprises a smoothly curved, widened, preferably rotationally symmetric part present between two cylindrical end portions, the plane passing through the transition zone between the widened part and one of the cylindrical end portions intersecting the anti-dazzle filament approximately centrally between its ends, the apical angle of the cone which has the center between the end faces of the two filaments facing each other as apex and the said transition zone as base being between **80°**and **100°**. Since the tubular envelope comprises a curved thickened part, the rays originating from the anti-dazzle filament and reflected by the wall of the envelope are very strongly scattered at the area of the said circular transition zone and only few of these rays will pass the focus of the reflector. Since the rays reflected by the cylindrical end portion and the thickened part which adjoin on either side of said circular zones do not pass through the focal zone either, said lamp will show the above-mentioned drawbacks to a far smaller extend.

Viewed from the cylindrical part of the envelope surrounding the anti-dazzle filament the widened part of the wall of the envelope present immediately behind the said zone cannot contribute to such reflections of anti-dazzle rays that they pass the focal zone. It is recommendable, however, to take also such measures that anti-dazzle light rays which are reflected by the widened part of the envelope adjoining the second annular zone near the other end of the tube do not pass through the said focal zone either. This can be achieved by giving said widened part of the envelope an adapted shape. From a point of view of manufacture this is not very attractive. Therefore, an embodiment is preferably used which is characterized in that the conical surface of the cone, viewed from the anti-dazzle filament in the direction of the driving light filament, intersects the envelope according to a circle present transversely to the axis of the envelope, the part of the envelope further remote from the filaments comprising over a part of its circumference a layer which prevents the passage of light, one of the contours of said layer being formed by a part of the circle. In a lamp thus formed substantially no dazzle phenomenon will occur when the anti-dazzle light is switched on.

In order that the invention may readily be carried into effect, it will now be described in greater details, by way of example, with reference to the accompanying drawing.

The drawing shows a twin lamp **1** for a motorcar headlight arranged in a parabolic reflector **3** and that only those parts thereof which are necessary for the description of the invention.

The lamp **1** comprises a lamp envelope **7** sealed at one end by a pinch seal **5** and in which a halogen-containing atmosphere prevails. The lamp envelope comprises two cylindrical portions **9** and **11** and an intermediate smoothly curved widened part **13.** Arranged in the envelope in a manner normal for twin-lamps are a filament **15** for driving light and a filament **17** for anti-dazzle light. A screen **18** surrounds the anti-dazzle filament **17** over the downward part thereof. This screen intersects the downwardly directed anti-dazzle rays which normally impinge upon the lower half of the reflector and give rise to a dazzling beam. The focus of the reflector is denoted by F.

The transitions between the widened part **13** and the two cylindrical portions **9** and **11** are formed as annular narrow zones which are denoted by **19** and **21** in the drawing. The zone **19** intersects the anti-dazzle filament **17** just in the center of its length.

The rays emerging from the anti-dazzle filament **17** and impinging upon the wall of the envelope are partly reflected and, in so far as they impinge upon the wall of the portion **9,** cannot reach the reflector **3** after reflection. For example, the reflected outermost ray **23** will just be intercepted by the screen **18.**

Rays emerging from the anti-dazzle filament **17** and impinging upon the wall of the widened part **13,** denoted by **27, 31,** will not reach, after reflection **(29, 33),** the space between the filaments either where the focus F of the reflector is present and will not have a dazzling effect either when the anti-dazzle light is switched on.

They are reflected to a place remote from the focal zone where they cannot emerge to the lower half of the reflector owing to a black layer **35** provided on the outer wall of the portion **11,** for example, by painting. This layer is provided only on the lowermost half of the cylindrical portion **11.**

Those rays which just impinge upon or near the rounded transition zone **19** are strongly scattered upon reflection and the number of reflected rays thus scattered and passing through the said focal zone thus is small.

The presence of the black layer **35** hardly impedes the radiation of the filament for driving light when the line denoted by **37** encloses an angle α of 40°–50° with the axis of the lamp.

I claim:

1. A halogen filament lamp comprising:

a lamp envelope having cylindrical end portions, said envelope having an outwardly bulging intermediate portion between the cylindrical end portions, said bulging intermediate portion being smoothly curved and symmetric about the longitudinal axis of the lamp;

a filament for a driving light stretched axially in the envelope;

a filament for an anti-dazzle light also stretched axially in the envelope, the intermediate portion of the envelope and one of said cylindrical end portions of the envelope proximate to said anti-dazzle filament forming a transition zone defining a plane which intersects the anti-dazzle filament approximately centrally between its ends, said two filaments being spaced apart and having the point approximately between the ends of the two filaments which face each other forming an apex of a cone, the cone having as a base said transition zone, the apical angle of the cone being between 80° and 100°; and

a reflecting screen surrounding part of the circumferential region around the antidazzle filament.

2. A halogen lamp as claimed in claim 1 wherein said cone extends through said apex to form a conical surface inverted from said first cone, said inverted conical surface intersecting the intermediate portion of said envelope and forming a circle, said circle being transverse to the longitudinal axis of the tube, a lower portion of the envelope extending from a portion of said circle to the end of the cylindrical portion of the envelope having a light-impervious layer thereon.

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