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CAR HEAD LAMP

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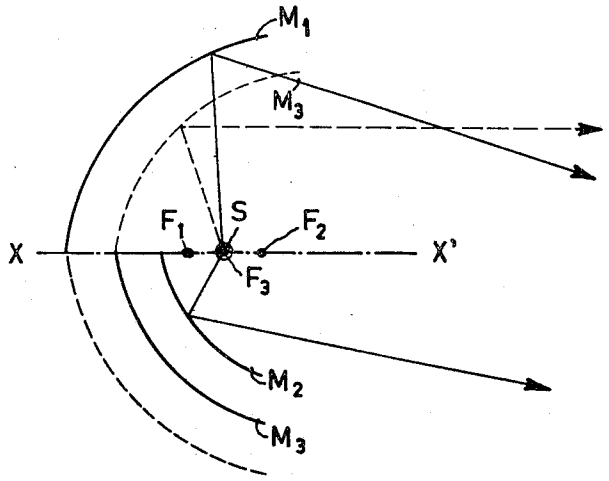

FIG.1

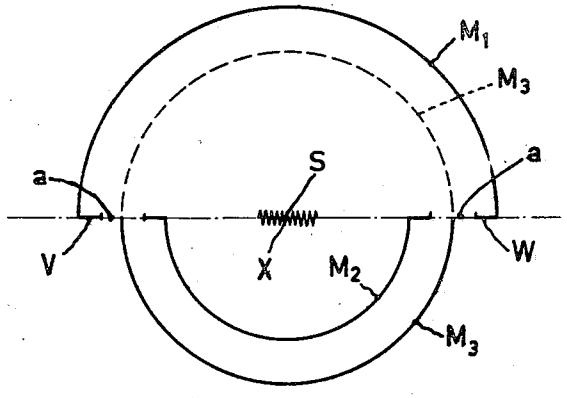

FIG.2

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CAR HEAD LAMP

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2 Claims. (Cl. 240—41.35)

There is known a car head lamp, the reflector of which comprises two substantially parabolic parts, the focal points and/or the tops of which are relatively offset in the direction of the reflector axis, said reflector parts going over one in the other in one or more meridional zones, said reflector having a filamant body arranged in it transversely to the reflector axis.

Such head lamps have, in general, the advantage that they permit of obtaining a dim beam, while the whole reflector surface is utilized. In this case the filament body can be arranged between the foci of the two parabolic parts of the reflector. If a far-reaching main beam is to be produced by means of the same reflector, one or more further incandescent bodies must be provided in the lamp, which bodies are preferably arranged at the places of the two foci of the parabolic reflector parts.

The present invention has for its object to provide, on the basis of the aforesaid head lamp, a structure in which one and the same incandesscent body can produce both the far-reaching main beam and the dipped beam. This structure has the advantage that, when going over from the main beam to the dim or dipped beam and conversely, the incandescent body in the lamp operates uninterruptedly, so that the change-over referred to can be performed gradually.

To this end the head lamp of the kind set forth is characterized in that it comprises, apart from the reflector of two substantially parabolic parts, a further, substantially parabolic mirror, which is adapted to turn about the reflector axis and to be moved through a gap provided at the place of one or more of the meridional transitional zones between the reflector parts, into and out of the space surrounded by the reflector, the focus of which mirror coincides at least substantially with part of the incandescent body arranged transversely to the reflector axis.

With the car head lamp according to the invention the mirror adapted to turn about the reflector axis is actuated for changing over from the main beam to the dipped beam and conversely, said mirror arriving, in the working position, in front of one of the parabolic parts of the stationary reflector, which results in a change of the beam pattern.

The invention will be described more fully with reference to the drawing.

In the drawing FIG. 1 is a diagrammatical longitudinal sectional view of a head lamp according to the invention and FIG. 2 is a front view thereof, also shown diagrammatically.

The head lamp according to the invention comprises in its housing (not shown) a reflector comprising two mainly parabolic parts arranged stationary in the lamp housing. Said parts are designated by M_1 and M_2. The associated foci are designated F_1 and F_2, lying on the reflector axis X—X'. Between the foci F_1 and F_2, transversely to the reflector axis X—X' there is stretched a concentrated incandescent body S.

From FIG. 1 it will be seen, in particular, that, when the incandescent body S is actuated, both the upper half M_1 of the reflector and the lower half M_2 thereof produce a non-dazzling light beam in a downward direction, which beam has therefore the nature of a dipped beam.

From FIGS. 1 and 2 it will furthermore be seen that the reflector halves M_1 and M_2 in the embodiment shown merge via horizontal, meridional planes V and W. Each of these planes has a gap-shaped opening *a*, indicated diagrammatically in FIG. 2. These gap-shaped openings *a* are proportioned so that the substantially parabolic mirror M_3 can pass through them, which mirror is adapted to turn about the axis X—X'. If this mirror is in the working position, it occupies the position indicated in FIGS. 1 and 2 in broken lines, designated by M_3'.

The mirror M_3 has its focus at F_3, which coincides with the point of intersection of the incandescent body S with the axis X—X'. If the mirror M_3 is in the working postion, the light rays emanating from F_3 are directed by the mirror M_3 in directions parallel to the reflector axis X—X'.

From FIGS. 1 and 2 it therefore follows that the lower half M_2 of the stationary reflector of the head lamp fulfils always the same function both for the main beam and for the dipped beam. In the upper half of the head lamp, however, the mirror M_1 or the movable mirror M_3, turned through the gaps *a*—*a* in the reflector space, which completely screens the mirror M_1 in the final position in the embodiments shown, is operative according as the main beam or the dipped beam are to be produced.

It will be obvious that the meridional transitional zones between the two reflector parts need not be in line with each other, as is shown in FIG. 2; as an alternative they may be at an angle of for example 165° to each other. In the latter case the head lamp can produce an asymmetrical dipped beam of the present-day European pattern.

What is claimed is:

1. An auto headlamp comprising a reflector having two approximately half parabolic segments provided with foci spatially arranged along the reflector axis, a source of light between said foci and on said reflector axis, said reflector segments being offset with respect to each other, and another approximately half parabolic segment, said other half parabolic segment being mounted to rotate about said reflector axis and to move through the gap formed between said two reflector parabolic segments to block one of the latter from receiving the rays of light from said light source, the focus of said other half parabolic segment corresponding substantially with the part of the light source arranged in the lamp intersecting the reflector axis.

2. An auto headlamp comprising a reflector having two approximately half parabolic segments provided with foci spatially arranged along the reflector axis, a source of light between said foci and on said reflector axis, said reflector segments being offset with respect to each other and each directing the light rays thereon downwardly, and another approximately half parabolic segment, said other half parabolic segment being mounted to rotate about said reflector axis and to move through the gap formed between said two reflector segments to block one of the latter from receiving the rays of light from said light source and to project the light rays thereon in a direction parallel to the reflector axis, the focus of said other half parabolic segment corresponding substantially with the part of the light source arranged in the lamp intersecting the reflector axis.

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