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(19)



(54) INTERIOR LAMP FOR VEHICLES

(71) We, WINGARD LIMITED, a British Company of Kingsham Road, Chichester, Sussex, do hereby declare the invention, for which we pray that a Patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a new or improved interior lamp for motor vehicles.

It is usual to provide at least one interior lamp in a saloon car, the lamp being controlled by a manually operated switch and also by a door-operated switch.

According to our invention an interior lamp for vehicles comprises a body or bezel adapted to be mounted in a panel or other part of a vehicle, a transparent or translucent lens mounted to rock in the body or bezel, and resilient contact members which are mounted on the lens and carry the lamp bulb and which, in selected angular positions of the lens, engage with spaced stationary contacts mounted in the body or bezel, at least one of the contact members resiliently retaining the lens in any of the selected angular positions into which it has been moved.

The two contact members between which the lamp bulb is carried are preferably identical with each other, and the stationary contacts may also be identical with each other so that the number of different parts in the assembly is reduced to a minimum.

One practical form of interior lamp embodying our invention is illustrated by way of example in the accompanying drawings in which:—

Figure 1 is a longitudinal section of the complete lamp with a portion of the lens shown in full,

Figure 2 is a perspective view of the body,

Figure 3 is a perspective view of one of the moving contact strips,

Figure 4 is a perspective view of one of the stationary contacts.

[*Price 25p*]

The body or bezel 1 of the lamp is a skeleton case of rectangular outline with rounded corners and is moulded from plastics material. The case is adapted to fit into an opening in a panel 2 and has on its outer edge a peripheral flange 3 adapted to fit against the panel around the opening.

Holes and recesses 4, 5 are formed in the end walls of the body to accommodate the contacts as described below,

The lens 6 is moulded from a transparent or translucent plastics material and is of shallow cup form. Its outline and dimensions are such that it fits freely within the case in which it is mounted to rock about a transverse axis midway between the ends of the case and at right angles to its longer sides. For this purpose aligned pins 7 are moulded integrally with or are mounted in and project from the longer walls of the lens, and these pins are sprung into aligned openings in the case. The inner slightly concave surface of that part of the lens which faces towards the interior of the vehicle is formed with a pattern of small squares or pyramids for diffusing the light from the lamp.

The lamp bulb 8 is of the festoon type and is supported between two indentical contact members 9 secured by rivets 10 to the end walls of the lens. Each contact member comprises a strip of resilient metal bent to S outline. One end of the strip is apertured to receive the coned end cap of the bulb. The other end of the strip is doubled back on itself and its extremity is curled round into an eye 11 which is received in a clearance notch in the end wall of the lens. Angular movement of the strip about the rivet is prevented by providing on the inner face of the end wall spaced pips or ribs (not shown) between which the strip is located.

The contact members 9 co-operate with

Price 33p

stationary contacts mounted on the inner faces of the end walls of the case. One stationary contact 12 shown at the right hand end of Figure 1 is a flat strip secured against the wall by tags 13 passing through slots in the wall, the upper end of the strip terminating short of the upper end of the the wall. The lower end of the strip has a cranked portion 14 which is adapted to receive a live lead.

The stationary contact 15 at the other end of the case is similarly secured to the inner face of the wall by tags 16 passing through slots in the wall and is formed with two spaced recesses 17, 18 for selective engagement by the eye 11 on the adjacent contact member 9 according to the angular position of the lens. The contact 15 is further located by a tongue 19 bent into a recess in the case, and at its lower end the contact has a cranked portion 21 adapted to receive a lead from a door-operated switch.

An earth contact 22 is mounted on the outer side of the wall and has a cranked tongue 23 projecting inwardly through a slot in the wall for engagement by the eye 11 in one position of the lens. The earth contact also has an inclined portion 24 terminating in a lug 25 received in a recess 26 in the flange 3 of the case.

At the other end of the case there is a chamfered external lug or rib 27 and the case is fitted into the opening in the panel by inserting that end into the opening first and then pressing the case towards the panel so that the earth contact snaps into the opening and holds the lamp in position.

When the lens is in its normal position shown in Figure 1 in which the base of the lens is parallel to and substantially flush with the flange 3 on the case the lamp bulb is connected in series between the live contact 12 and the contact 15 and the lamp will light on opening of the door of the vehicle to which the lamp is fitted. The lens is located in this position by the engagement of the eye 11 in the recess 17 in the contact 15.

If the right hand end of the lens is pressed in to move the lens angularly in a clock-wise direction about its pivot the eye 11 of the left hand contact 9 will be brought into engagement with the lug 23 of the earth contact and the lamp will light. This is the normal 'on' position.

If the left hand end of the lens is pressed in, the eye 11 on the right hand contact will ride clear of the live contact and the lamp will not light even when a door is opened. This is the normal 'off' position in which the lens is located by the eye 11 in the recess 18 in the contact 15.

One important advantage of our improved lamp is that the wiring connectors are parts of static contact pieces so that the wires do not move with the lens and the risk of wires breaking through fatigue after prolonged use is reduced to a minimum.

In an alternative method of mounting the lamp in the opening in a panel the part 24 of the earth contact is replaced by a part located between the panel and the flange 3 on the case, and a countersunk self-tapping screw is screwed through the flange and the earth contact into the panel.

WHAT WE CLAIM IS:—

1. An interior lamp for vehicles comprising a body or bezel adapted to be mounted in a panel or other part of a vehicle, a transparent or translucent lens mounted to rock in the body or bezel, and resilient contact members which are mounted on the lens and carry the lamp bulb and which, in selected angular positions of the lens, engage with spaced stationary contacts mounted in the body or bezel, at least one of the contact members resiliently retaining the lens in any of the selected angular positions into which it has been moved.

2. An interior lamp for vehicles as claimed in Claim 1 in which the body or bezel and the lens are both moulded from plastics material, the body or bezel being a skeleton case of rectangular outline with rounded corners and a peripheral flange on one edge, and the lens being of shallow cup form and of such outline and dimensions as to fit freely within the case.

3. An interior lamp for vehicles as claimed in Claim 2 in which the lens is mounted to rock about aligned pins located in the middle of its longer walls and received in aligned openings in the longer walls of the body or bezel.

4. An interior lamp for vehicles as claimed in Claim 1 in which the lens is located in one of the selected angular positions by the engagement of an end portion of one of the resilient contact members mounted on the lens with a spaced recess in one of the stationary contacts.

5. An interior lamp for vehicles as claimed in Claim 1 in which the resilient contact members mounted on the lens are identical.

6. As interior lamp for vehicles as claimed in Claim 5 in which the stationary contacts are identical with each other.

7. An interior lamp for vehicles as claimed in Claim 1 in which there are two stationary contacts adapted to receive respectively a live lead from a door-operated switch.

8. An interior lamp for vehicles as

stationary contacts mounted on the inner faces of the end walls of the case. One stationary contact 12 shown at the right hand end of Figure 1 is a flat strip secured against the wall by tags 13 passing through slots in the wall, the upper end of the strip terminating short of the upper end of the the wall. The lower end of the strip has a cranked portion 14 which is adapted to receive a live lead.

The stationary contact 15 at the other end of the case is similarly secured to the inner face of the wall by tags 16 passing through slots in the wall and is formed with two spaced recesses 17, 18 for selective engagement by the eye 11 on the adjacent contact member 9 according to the angular position of the lens. The contact 15 is further located by a tongue 19 bent into a recess in the case, and at its lower end the contact has a cranked portion 21 adapted to receive a lead from a door-operated switch.

An earth contact 22 is mounted on the outer side of the wall and has a cranked tongue 23 projecting inwardly through a slot in the wall for engagement by the eye 11 in one position of the lens. The earth contact also has an inclined portion 24 terminating in a lug 25 received in a recess 26 in the flange 3 of the case.

At the other end of the case there is a chamfered external lug or rib 27 and the case is fitted into the opening in the panel by inserting that end into the opening first and then pressing the case towards the panel so that the earth contact snaps into the opening and holds the lamp in position.

When the lens is in its normal position shown in Figure 1 in which the base of the lens is parallel to and substantially flush with the flange 3 on the case the lamp bulb is connected in series between the live contact 12 and the contact 15 and the lamp will light on opening of the door of the vehicle to which the lamp is fitted. The lens is located in this position by the engagement of the eye 11 in the recess 17 in the contact 15.

If the right hand end of the lens is pressed in to move the lens angularly in a clock-wise direction about its pivot the eye 11 of the left hand contact 9 will be brought into engagement with the lug 23 of the earth contact and the lamp will light. This is the normal 'on' position.

If the left hand end of the lens is pressed in, the eye 11 on the right hand contact will ride clear of the live contact and the lamp will not light even when a door is opened. This is the normal 'off' position in which the lens is located by the eye 11 in the recess 18 in the contact 15.

One important advantage of our improved lamp is that the wiring connectors are parts of static contact pieces so that the wires do not move with the lens and the risk of wires breaking through fatigue after prolonged use is reduced to a minimum.

In an alternative method of mounting the lamp in the opening in a panel the part 24 of the earth contact is replaced by a part located between the panel and the flange 3 on the case, and a countersunk self-tapping screw is screwed through the flange and the earth contact into the panel.

WHAT WE CLAIM IS:—

1. An interior lamp for vehicles comprising a body or bezel adapted to be mounted in a panel or other part of a vehicle, a transparent or translucent lens mounted to rock in the body or bezel, and resilient contact members which are mounted on the lens and carry the lamp bulb and which, in selected angular positions of the lens, engage with spaced stationary contacts mounted in the body or bezel, at least one of the contact members resiliently retaining the lens in any of the selected angular positions into which it has been moved.

2. An interior lamp for vehicles as claimed in Claim 1 in which the body or bezel and the lens are both moulded from plastics material, the body or bezel being a skeleton case of rectangular outline with rounded corners and a peripheral flange on one edge, and the lens being of shallow cup form and of such outline and dimensions as to fit freely within the case.

3. An interior lamp for vehicles as claimed in Claim 2 in which the lens is mounted to rock about aligned pins located in the middle of its longer walls and received in aligned openings in the longer walls of the body or bezel.

4. An interior lamp for vehicles as claimed in Claim 1 in which the lens is located in one of the selected angular positions by the engagement of an end portion of one of the resilient contact members mounted on the lens with a spaced recess in one of the stationary contacts.

5. An interior lamp for vehicles as claimed in Claim 1 in which the resilient contact members mounted on the lens are identical.

6. As interior lamp for vehicles as claimed in Claim 5 in which the stationary contacts are identical with each other.

7. An interior lamp for vehicles as claimed in Claim 1 in which there are two stationary contacts adapted to receive respectively a live lead from a door-operated switch.

8. An interior lamp for vehicles as

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claimed in Claim 2 in which the body or bezel of the lamp is adapted to be received in an opening in a panel in which it is retained by the engagement of a resilient portion of an earth contact with an edge of the opening.

9. An interior lamp for vehicles as claimed in Claim 2 in which the body or bezel is adapted to be received in an opening in a panel in which it is retained by a lug on one end of the body or bezel engaging behind the panel at one end of the opening and by a screw passing through the peripheral flange on the body or bezel at the other end and through an earth contact into the panel.

10. An interior lamp for vehicles substantially as described with reference to the accompanying drawing.

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