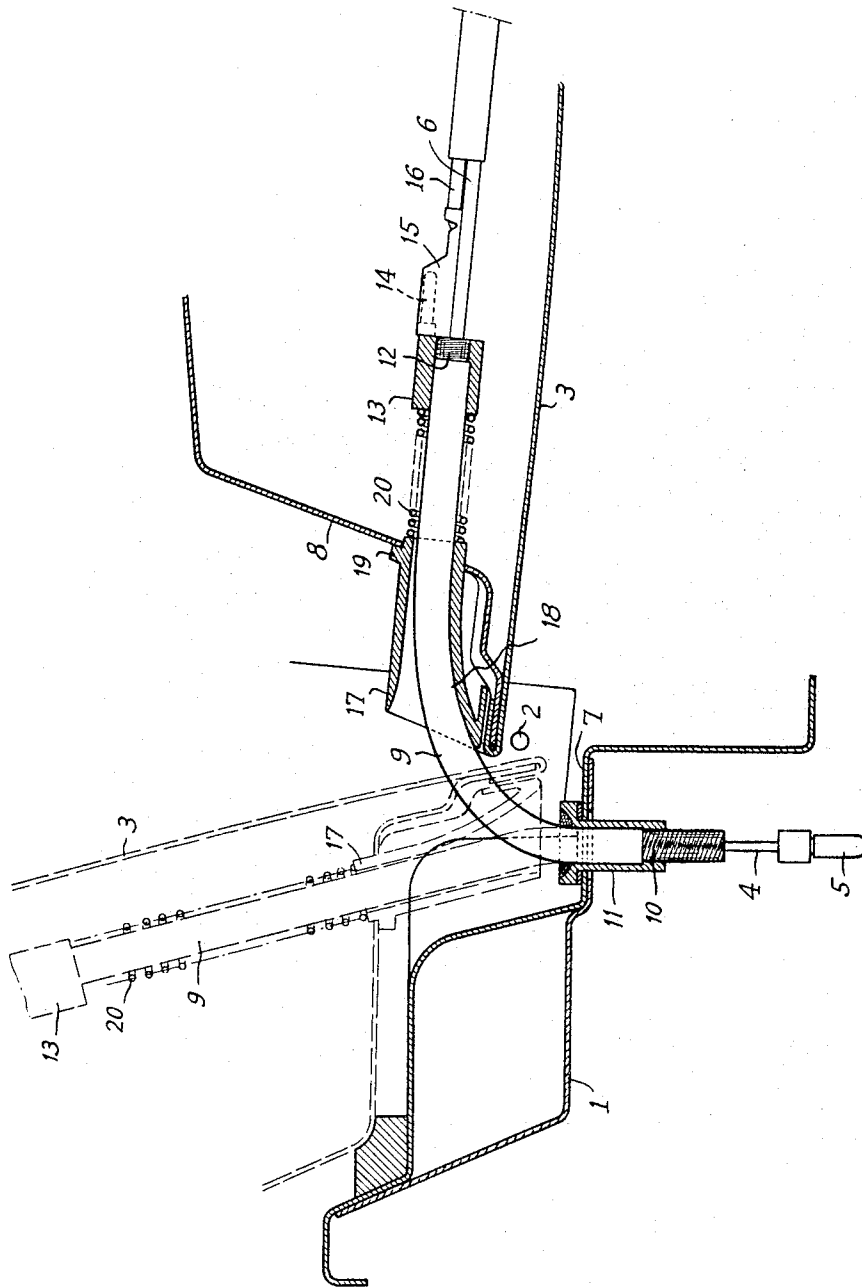


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G. KLITZING
ELECTRICAL SUPPLY ARRANGEMENT FOR ILLUMINATING
A VEHICLE NUMBER PLATE
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Inventor

Guillaume
Klitzing

Stevens, Davis, Miller & Mosher

Attorneys

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ELECTRICAL SUPPLY ARRANGEMENT FOR ILLUMINATING A VEHICLE NUMBER PLATE

Guillaume Klitzing, Asnieres, France, assignor to Societe Anonyme Simca Automobiles, Paris, France

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3 Claims. (Cl. 240—8.3)

ABSTRACT OF THE DISCLOSURE

An electrical supply arrangement for illuminating a vehicle license plate mounted on a tail door which is articulated to the vehicle body. An insulated conductor is arranged within a flexible conductive sheath and connects one of the terminals of a lamp over the license plate to an electrical supply circuit while the sheath, which is fixed to the vehicle body, connects the other terminal of the lamp to ground.

The present invention has for an object an electrical supply arrangement for illuminating a vehicle number plate.

In motor vehicles of the "Estate. Car" or "Shooting Brake" type, comprising a rear door or tailboard, the rear number plate is often mounted on the door. However, this arrangement always presents disadvantages concerning the electrical supply to the lamps lighting this plate, because the door is movable with respect to the body of the vehicle.

In existing electrical supply means, the hinge pins are often used for a ground contact with one of the terminals of the lighting lamp because they are the only member which remains in permanent contact between the door and the vehicle body. However, it is difficult to obtain a good contact because of rust, grease, or dust which accumulates at this spot, and succeeds in more or less insulating the door from the vehicle body.

On the other hand, the current input lead which connects the other terminal of the lamp to the live side of the electrical supply circuit is not protected, and it may be deteriorated by repeated opening and closing of the door.

To this end, according to the invention, an insulated conductor arranged in a flexible conductive sheath connects one of the terminals of the lighting lamps to the live side of the circuit supply, said sheath connecting the other terminal of the lamps to ground and being arranged between the body of the vehicle and the door.

A metal sheath, comprising a covering of plastic material in which is engaged an insulated conductor is used. The conductor which connects one of the terminals of the lamps to the live side of the circuit is thus protected by the metal sheath and the latter is used to establish a good conduction between the chassis on which it is fixed and the other terminal of said lamps. A good contact is thus always established between the electrical supply network and the lamps.

However, in order to enable the sheath to slide with respect to the wall of the door and in order to avoid any deterioration of this sheath, flexible means co-operate with the latter in order to obtain a tensioning and guiding of the sheath which will always substantially avoid any deformation and any deterioration of the latter during movement of the door.

According to another feature of the invention, the flexible conductive sheath is fixed at one of its ends to the vehicle body and it is engaged at its other end in the door through a flexible protective and guiding sleeve, said

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sheath being held under tension by a helical spring, resting on one side on said sleeve integral with one of the walls of the door, and on the other side, on a terminal fixed on the end of the cable.

Other advantageous characteristics of the invention will appear from the following description of an embodiment given solely by way of example, the description being made with reference to the accompanying drawing in which the single figure is a sectional view of the body of the vehicle and of the rear door showing the electrical supply means.

In the drawing, only the lower part 1 of the vehicle body is shown, on which the rear door 3, of which only a segment is shown in the drawing, is mounted pivotally about a shaft 2.

The electrical supply means for lighting the number plate, shown in full lines for the open position of the door 3, is constituted by a lead or conductor having at one of its ends a terminal 5 for connection to the line side of the supply circuit (not shown in the drawing) and the other end 6 of which, after passing through the wall 7 of the lower part of the body of the vehicle and the internal wall 8 of the door, is taken to one of the terminals of the lamps. This conductor 4 is arranged in a flexible metal sheath 9, covered by a layer of plastic material along part of its length and particularly along that part which extends between the body of the vehicle and the door.

The metal sheath 9 is crimped at one of its ends 10 by a metal sleeve 11 fixed to the wall 7 of the lower part of the body of the vehicle in order to obtain a good contact between the metal sheath 9 and the wall of the body 1.

The other end 12 is crimped by a terminal 13 having a lug 14 engaged in a clip 15 crimped on the end of a ground wire 16, terminating at the other terminal of the lamps. For passing through the internal wall 7 of the door, the sheath 9 is guided by a flexible sleeve 17, adapted so as to correspond in shape to the curvature 18 of this sheath when the door is in the open position. This flexible sleeve 17 is fixed to the internal wall 8 of the door by a shoulder 19 which has been partially shown in the drawing. A helical spring is mounted about metal sheath 9 with one end of the spring engaging the flexible sleeve 17 and the other end engaging the terminal 13.

When the door is in the closed position, shown in dotted lines in the drawing, the sheath 9 is held substantially in or near a straight line due to its own rigidity and the relaxed spring 20 rests on the sleeve 17.

As soon as the door 3 is opened, the sheath 9 is bent to assume the curved position shown in the drawing. During opening the door, the sheath 9 is stretched by the action of the spring 20 resting on the sleeve 17, the latter being compressed to exert pressure on the terminal 13. This terminal 13 is thus maintained in a rectilinear position with respect to the end of the sheath 9 and of the end 6 of the conductor.

I claim:

1. An electrical supply arrangement for illuminating a vehicle number plate on a tail door articulated to a vehicle body, comprising an insulated conductor arranged within a flexible conductive sheath, said conductor connecting one of the terminals of at least one lamp to a live conductor of an electrical supply circuit, said sheath connecting the other terminal of said at least one lamp to ground, one end of said sheath being fixed to the body of said vehicle and the other end of said sheath being fixed to said tail door.

2. An electrical supply arrangement for illuminating a vehicle number plate on a tail door articulated to a vehicle body, comprising an insulated conductor arranged within a flexible conductive sheath, said conductor con-

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necting one of the terminals of at least one lamp to a live conductor of an electrical supply circuit, said sheath connecting the other terminal of said at least one lamp to ground and being arranged between the body of said vehicle and said tail door, said sheath being fixed at one of its ends to said vehicle body and being engaged at its other end in said tail door by a flexible protective and guiding sleeve, spring means for holding said sheath under tension resting on the one hand on said sleeve integral with a part of said tail door, and on the other hand on a terminal lug, said terminal lug being fixed to the end of the cable arranged within said tail door.

3. The arrangement of claim 1 further comprising a

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flexible guiding sleeve, said guiding sleeve having an internal configuration corresponding in shape to the curvature of said sheath when said tail door is in an open position.

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NORTON ANSHER, *Primary Examiner.*

D. L. JACOBSON, *Assistant Examiner.*