

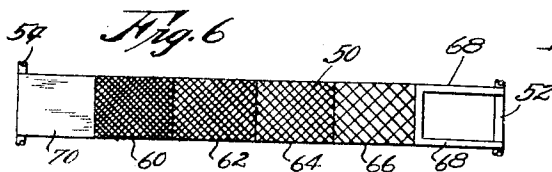
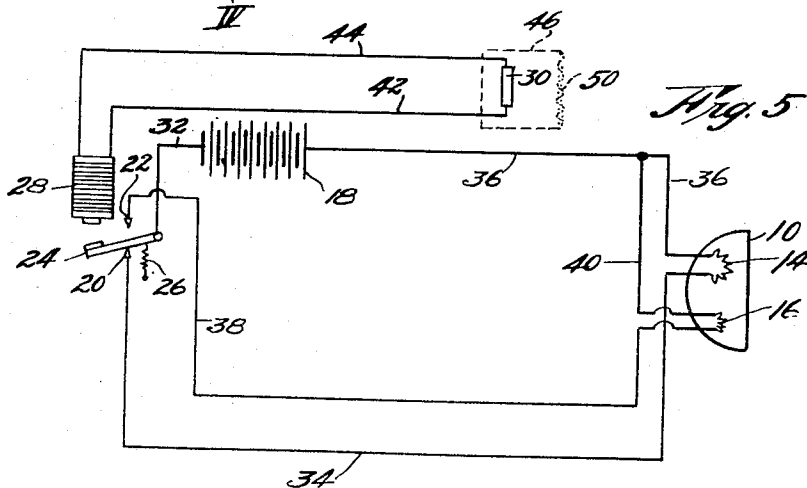
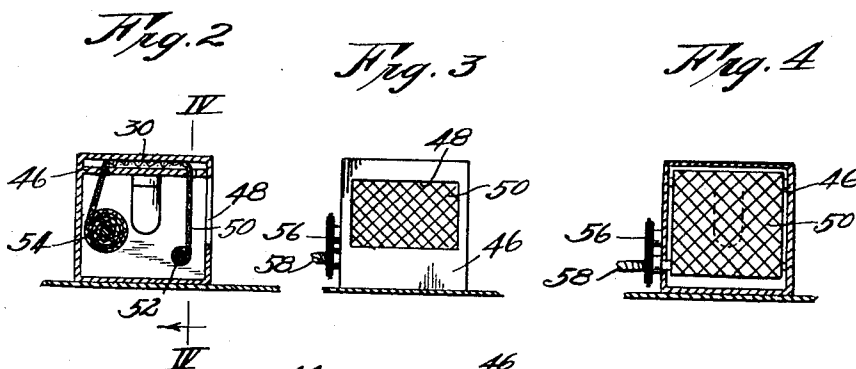
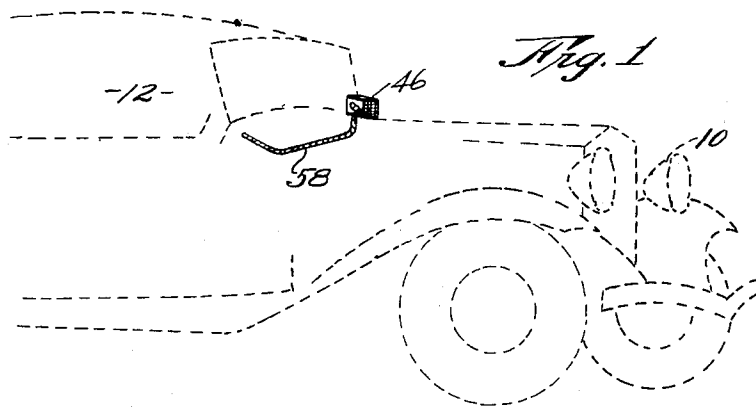
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AUTOMATIC HEADLIGHT CONTROL

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AUTOMATIC HEADLIGHT CONTROL

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1 Claim. (Cl. 201—63)

This invention relates to control means for electrical circuits and particularly automatic headlight control means whereby the amount of electrical energy passed to the filaments of the automobile headlight is controlled by the amount of light striking the actual controlling element forming a part of the system.

The primary object of this invention is the provision of automatic headlight controls for automobiles, which control is associated with the conventional circuit of the automobile which includes a source of electrical energy and the customary headlights, together with transmitting means and the associated switches that might be employed.

One of the important aims of the present invention is to provide manually controllable means for establishing a predetermined amount of screening for the light sensitive cell which forms an important element of the system to which this invention relates.

An even further object of this invention is the provision of unique and novel housing means for a light sensitive element of a light controlling system, which means includes a series of screens or the like selectively movable to an operative position with respect to the light sensitive element and uniquely placed in a housing for the said element so that the entire unit may be mounted in a suitable position upon an automobile and joined to a manually controlled part placed within the reach of the driver.

Other objects of this invention, including the manner in which a light sensitive cell and the aforesaid screening means might be combined with an automatic headlight control for automobiles will appear during the course of the following specification, referring to the accompanying drawing, wherein:

Figure 1 is a diagrammatical view illustrating one embodiment of the invention and the manner in which it may be mounted upon a conventional automobile.

Fig. 2 is an enlarged, vertical, central section through the light sensitive element housing member.

Fig. 3 is a front elevation of the same.

Fig. 4 is a vertical section taken along line IV—IV of Fig. 2.

Fig. 5 is a wiring diagram illustrating the electrical circuits employed in the system, and,

Fig. 6 is a stretch-out view of the screen entirely removed from the housing for the light sensitive element.

It is known in this art that light sensitive units

or cells such as the commercial type of selenium cell have been employed in controlling the intensity of headlights for automobiles. It is further recognized that such cells vary the flow of current through the circuit and because of this fact, have been objectionable so far as the practical operation of the control system is concerned.

Comparatively recent developments in the art of producing light sensitive cells permits the employment of such a unit in the system contemplated so long as the cell transforms light energy directly into electrical energy without the use of auxiliary voltage or sources of electrical energy.

It is also known that such cells as are employed in the system contemplated by this invention develop sufficient energy to directly operate relays or electromagnetic switches without the use of auxiliary apparatus or batteries.

In the preferred embodiment of this invention the headlights 10 of the automobile 12 have a bright and dim filament 14 and 16 respectively, each of which produces a light of different candle power when energy is being supplied thereto from battery 18. When driving along highways it is desirable to automatically transfer the supply of energy from battery 18 from one filament to the other and vice versa as the intensity of the headlamps of the approaching automobile varies to and from a critical point where the amount of light may become blinding to the driver. So changing the effectiveness of headlamps 10 will signal to the approaching car and in the event that said car has been equipped with a system embodying this invention, the lights of that car will be automatically dimmed without attention of the driver.

An electromagnetic switch having a contact point 20 and a contact point 22 which are alternately engaged by movable contact 24 is the means whereby one or the other of filaments 14 and 16 become energized. The movement of arm 24 is caused by spring 26 and the electromagnet 28 and it is obvious from observing Fig. 5 that the bright filament 14 is in circuit under normal conditions. When electromagnet 28 is energized through electrical energy supplied thereto through the light sensitive cell 30, arm 24 is attracted so that it engages contact point 22 for the purpose of cutting out of circuit filament 14 and cutting into circuit filament 16. Such action obviously dims the headlamps 10 of the automobile.

The circuit which is closed when the system is

in normal condition may be traced as follows: Battery 18, wire 32, arm 24, contact point 20, wire 34, filament 14, wire 36, and back to battery 18. When filament 16 is in circuit the latter may be traced as follows: Battery 18, wire 32, arm 24, contact point 22, wire 38, filament 16, wire 40, wire 36, and back to battery 18. The electromagnet 28 is joined to the light sensitive cell 30 by wires 42 and 44 respectively and this circuit is always closed.

The amount of light which impinges upon cell 30 should be varied as desired in order to control the operation of the switch and in some instances in order to entirely render the cell 30 and its associated circuit inoperative, to fulfill this important object of the invention, cell 30 is mounted within a housing 46 which is provided with a window 48 facing forwardly so that rays of light from approaching automobiles may strike cell 30. A continuous screen strip 50 is mounted within housing 46 upon rollers 52 and 54 so that the desired panel of the said strip may be interposed between window 48 and cell 30.

Rollers 52 and 54 should be secured together by a sprocket chain 56 to insure simultaneous rotation and a flexible shaft 58 extends to a point within easy reach of the automobile driver. Thus the turning of the flexible shaft 58 will rotate rollers 52 and 54 for the purpose of controlling the amount of light which strikes cell 30.

Reference to Fig. 6 will indicate the manner in which strip 50 may be formed. There are a number of areas set off thereon which have different characteristics for the purpose of allowing a greater or lesser amount of light to pass therethrough. As an example, panel 60 is of especially fine mesh screen wire and panels 62, 64 and 66 are likewise of mesh, but progressively increasing in so far as the distance between the strands are concerned.

At one end of strip 50 ribbons 68 form an open frame so that light may pass through window 58 and against cell 30 without obstruction. At the other end of strip 50 there is an opaque panel 70 which may be drawn across window 58 to

entirely preclude the passage of light rays therethrough. Thus there is provided means for progressively graduating the amount of light rays which strike cell 30 from none to all available.

The manipulation of this control means for the light sensitive cell is rendered necessary and desirable as different conditions are met and the headlamps of the automobile 12 are effectively automatically controlled as desired by the driver, irrespective of the light conditions encountered.

It is understood that the specific wiring system herein illustrated as embodying one form of the invention might be varied greatly without departing from the invention and so far as the specific form of housing and control strip is concerned, the invention contemplates the broad combination and many forms of specific embodiments.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

In an automatic headlight control for automobiles having a light sensitive cell, a housing for the cell mounted on the automobile body exteriorly of the passenger compartment thereof and provided with a window in the forward side permitting entrance of light rays from the headlamps of approaching automobiles; a pair of rollers in the housing; a screen strip mounted on the rollers and extending from one roller to the other across the window; and means extending to a point accessible to the driver of the automobile inside the passenger compartment thereof to rotate the rollers and selectively dispose desired portions of the screen strip across the window to filter light rays passing therethrough to the said cell, said strip having an opening formed therethrough to register with the window when no filtering action is desired, an opaque area to close the window against the entrance of light rays, and a series of individual foraminous areas of different light ray retarding characteristics selectively movable to position across the said window.

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