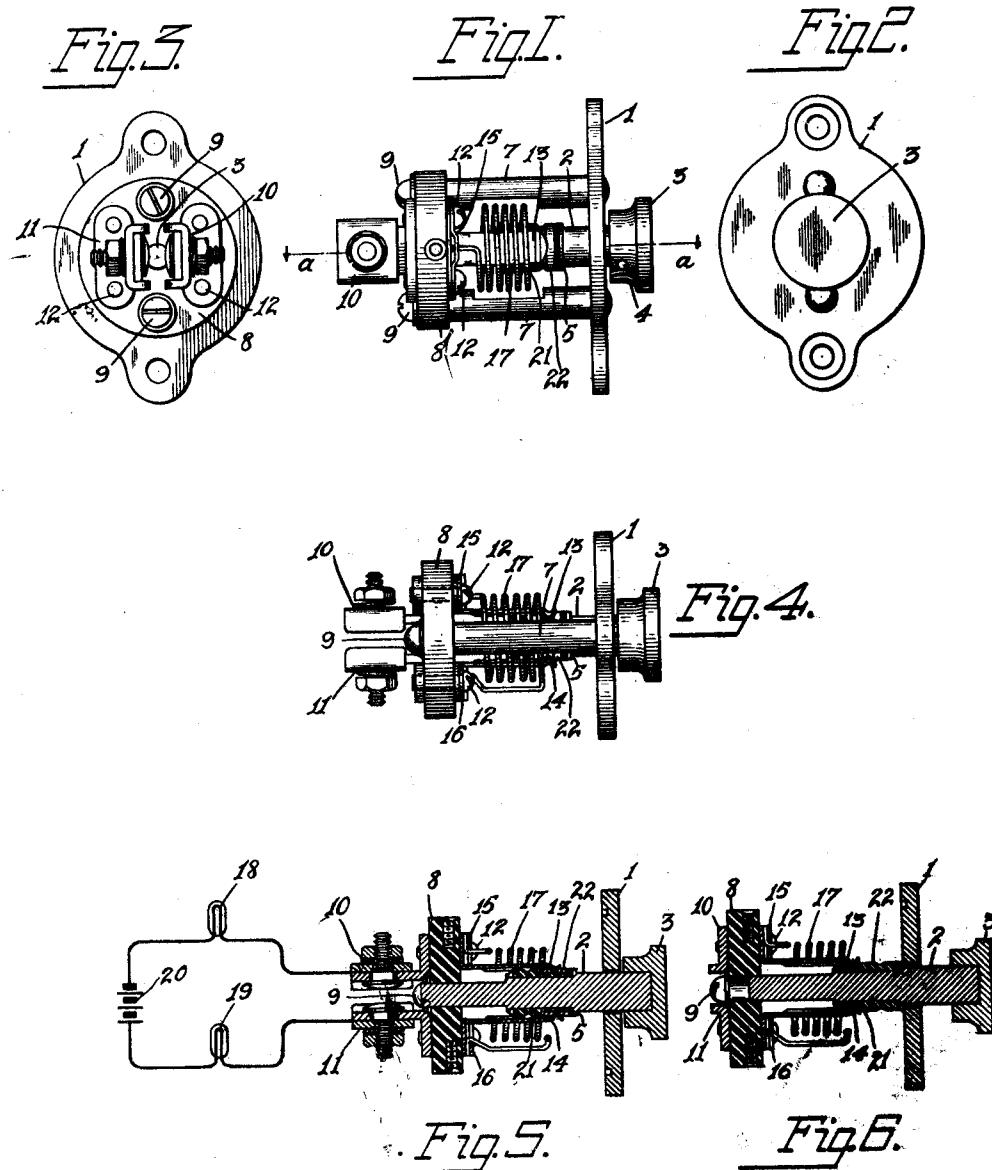


W. KAISLING.
DIMMER SWITCH FOR LIGHTING CIRCUITS.
APPLICATION FILED OCT. 25, 1913.

1,179,109.

Patented Apr. 11, 1916.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM KAISLING, OF CHICAGO, ILLINOIS, ASSIGNOR TO KELLOGG SWITCHBOARD & SUPPLY COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

DIMMER-SWITCH FOR LIGHTING-CIRCUITS.

1,179,109.

Specification of Letters Patent.

Patented Apr. 11, 1916.

Application filed October 25, 1913. Serial No. 797,170.

To all whom it may concern:

Be it known that I, WILLIAM KAISLING, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dimmer-Switches for Lighting-Circuits, of which the following is a specification.

My invention relates to dimmer switches for lighting circuits and has for its object the provision of an improved self-contained switch structure which may be used to control the amount of current supplied to a translating device such as a lamp.

My invention for instance may be advantageously used in connection with automobiles where the headlights are designed to cast a very bright light so long as the automobile is used over country roads, but which lights are designed to cast a less brilliant beam of light when used in the city to prevent blinding of persons within the range of its rays. Also the invention would be of use if on country roads it were desired temporarily to reduce the brilliancy of the beam when passing another vehicle or pedestrian.

The object of the structure of my invention is to provide a simple, effective and self-contained switching mechanism which can be advantageously placed to the uses above outlined.

I will explain in detail one form which my invention may take by referring more particularly to the accompanying drawing, in which—

Figure 1 is a side view of a switch constructed in accordance with my invention; Fig. 2 is a top view thereof; Fig. 3 is a bottom view thereof; Fig. 4 is a side view at right angles to that of Fig. 1; Fig. 5 is a sectional view on line *a-a* of Fig. 1, and Fig. 6 is a view similar to that of Fig. 5 showing the movable switch element in its alternative position.

My improved switch structure comprises a face plate 1 which carries all of the elements thereof to thus provide a self-contained device. This face plate carries a plunger 2 to which a fingerpiece 3 is fastened preferably by means of a pin 4. The plunger has a shoulder as at 5 so that the movement of the plunger upwardly, that is to the right, as shown in Fig. 6 is limited. Two studs 7, 7 are riveted or otherwise fas-

tened to the face plate 1 and carry at their opposite extremity an insulating plate 8 held in place by the screws 9. Upon the lower face of this insulating plate two connectors 10 and 11 are mounted and held in place by screws 12. These connectors may be of any desired form, being of course insulated from one another by being mounted upon the insulating plate. The same screws 12, there being two for each connector also serve to hold in place, two springs 13 and 14, which springs are preferably L-shaped as shown more clearly in Figs. 5 and 6. These screws likewise hold in place two strips 15 and 16 whose general outline is shown most clearly in Fig. 1. Between the strip 15 and the bent portion of the spring 13 and likewise between the strip 16 and bent portion of the spring 14 the two terminals of a resistance coil 17 are secured so that the two terminals of this resistance coil are secured respectively to the two springs 13 and 14. As will of course be clear, the spring 13 on account of the screw connection between it and the connector 10 is in electrical contact with the connector 10 and similarly spring 14 is in electrical contact with the connector 11.

Referring more particularly to Fig. 5, I show two lamps 18 and 19 which for instance may be the two lamps of automobile headlights, which lamps are connected in series with a battery 20 and the two connectors 10 and 11. The plunger 2 carries a sleeve 21 of insulating material fastened thereon and an annular contact element 22. Thus when the plunger is in the position of Fig. 5 the contact element 22 closes circuit between the springs 13 and 14, whereas if the plunger 2 is in the position shown in Fig. 6, then the contact element 22 is removed from association with the springs 13 and 14 and these springs rest against the insulating sleeve 21.

It will thus be seen that should the switch be in the position of Fig. 5, a circuit might be traced from the battery 20, through the lamp 18, connector 10, spring 13, contact ring 22, spring 14, connector 11, lamp 19, to battery at 20. In this way there would be no resistance in series in this circuit, the full battery voltage being used to light the lamps 18 and 19 to their full brilliancy. Now should the plunger be moved to the right to occupy the position of Fig. 6, then

the circuit would be traced from the battery 20 through the lamp 18, conductor 10, resistance wire 17, connector 11, lamp 19, to the battery 20. Under these conditions the lamps 18 and 19 will be considerably dimmed in view of the inclusion of the resistance 17 and thus the brilliancy of the beam materially reduced. Then by merely pushing the plunger 2 toward the left back to the position of Fig. 5 the lamps will again be lighted to their full brilliancy.

The structure as thus explained will be seen to be very simple and of a self-contained character.

The nature of my invention will thus be clear and it will likewise be clear that modifications may also be made without departing from its spirit.

Having however thus described one form which my invention may take, what I claim as new and desire to secure by Letters Patent is:—

1. A device of the character described comprising a framework, circuit terminals on said framework, a stationary switch element secured to said framework including a contact spring, a movable switch element carried by said framework, and a resistance element carried by said framework bridged across the said terminals and having its circuit controllable by said movable switch element and said contact spring.

2. A device of the character described comprising a framework, a pair of contact terminals mounted on said framework, a pair of switching springs mounted on said framework, a resistance element bridged across the said switching springs and secured to said framework, and a movable switch element for said switching springs.

3. A device of the character described comprising a framework, a pair of contact terminals mounted on said framework, a pair of switching springs mounted on said framework, a resistance element connected to said contact terminals and to the said switching springs, and a movable switch element for said switching springs.

4. A device of the character described comprising a framework, a pair of contact terminals mounted on said framework, a pair of switching springs mounted on said framework, a resistance element carried by said framework encircling said switching springs and bridged across said switching springs, and a movable switch element for said switching springs.

5. In a device of the character described in combination with a face plate, an insulating plate carried thereby, connecting terminals mounted on said insulating plate, switching springs carried by said insulating plate, and a resistance wire carried by said insulating plate bridged across said switching springs, and a movable switch

element reciprocatingly held in said framework, adapted to control the circuit through said resistance wire.

6. In a device of the character described in combination with a face plate, an insulating plate carried thereby, connecting terminals mounted on said insulating plate, switching springs carried by said insulating plate, and a resistance wire carried by said insulating plate encircling said switching springs and bridged across said switching springs, and a movable switch element reciprocatingly held in said framework adapted to control the circuit through said resistance wire.

7. In a device of the character described in combination with a face plate, an insulating plate carried thereby, connecting terminals mounted on said insulating plate, switching springs carried by said insulating plate, a resistance wire carried by said insulating plate bridged across said switching springs and secured thereto by means of resilient connecting springs, and a movable switch element reciprocatingly held in said framework adapted to control the circuit through said resistance wire.

8. In a device of the character described in combination with a face plate, an insulating plate carried thereby, connecting terminals mounted on said insulating plate, switching springs carried by said insulating plate, and a resistance wire carried by said insulating plate encircling said switching springs and bridged across said switching springs, a movable annular switch element reciprocatingly held for controlling the circuit through said resistance wire, and a plunger upon which said movable switch element is insulatingly mounted.

9. A device of the character described comprising a framework, electrical terminals, a stationary switch element and a resistance coil all mounted upon said framework, a two-position movable switch element adapted to place a shunt across or to connect said resistance across the said electrical terminals depending upon which one of its two positions said movable switch element is resting in.

10. A device of the character described comprising a framework, a pair of terminals secured to said framework, a stationary switch element secured to said framework and a resistance coil secured to said framework, a movable switch element adapted to assume either one of two positions, and means for placing a shunt across said terminals or for bridging the said resistance element across said terminals depending upon which one of the two positions the said movable switch element is in.

11. A device of the character described comprising a mounting plate, electrical terminals secured thereto, a switch element and

a resistance element mounted upon said plate and electrically connected to said terminals, and a two position movable switch element for directly connecting the said terminals or for connecting said resistance element across said terminals depending upon the position of said movable switch element. 15

12. An electrical switch comprising a mounting plate, electrical terminals, a switch element and a resistance element all secured to said mounting plate, a two position movable switch element for coöperation with

said first switch element, and means for operating said movable switch element to connect said resistance across said terminals or for directly connecting said terminals.

Signed my me at Chicago, county of Cook and State of Illinois, in the presence of two witnesses.

WILLIAM KAISLING.

Witnesses:

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