

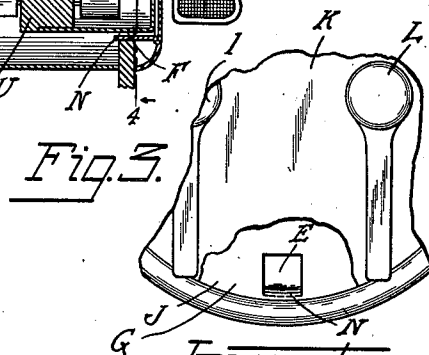
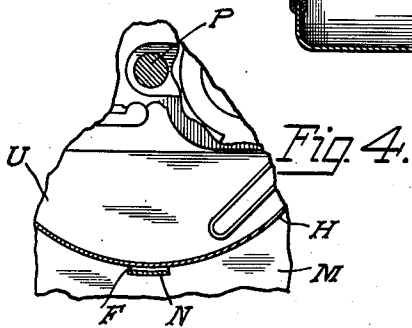
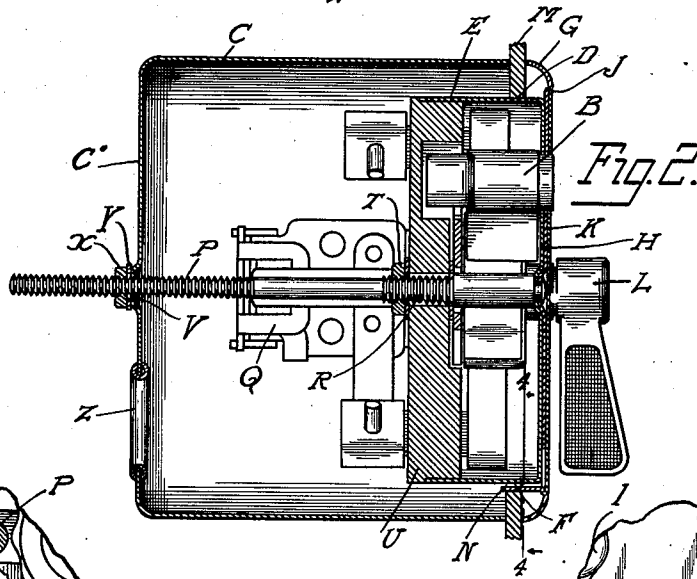
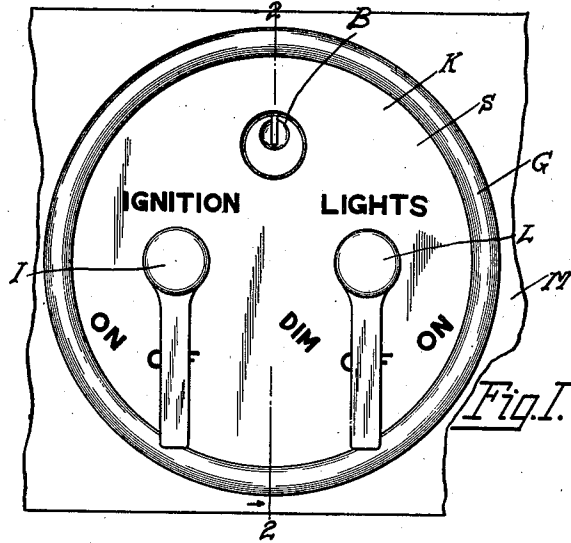
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1,450,728

W. KAISLING

IGNITION SWITCH

Filed July 15, 1918



Inventor:
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UNITED STATES PATENT OFFICE.

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

IGNITION SWITCH.

Application filed July 15, 1918. Serial No. 244,864.

To all whom it may concern:

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

My invention relates to electrical switches such as are used for controlling the ignition and light circuits of an automobile or the like, and has more particularly to do with the means used for securing such switches in position.

It is the object of my invention to provide means, which is simple and cheap in construction but positive in operation, for securing switches of the character above described in position, and at the same time to provide protective means for the terminals and apparatus secured to the back of such switches. Other objects will be pointed out in the ensuing specification and in the appended claims.

In the accompanying drawing, I have illustrated one embodiment of my invention applied to a switch of the general type shown in my application for Letters Patent, Serial No. 173,084, filed June 6, 1917, but it is to be understood that my invention may be applied to various other types of switches and is not limited to the exact type of switch shown in the drawings. In the said accompanying drawing, like parts are indicated by like reference characters in the different views, in which:

Fig. 1 shows a front view of the switch and a portion of the cowl or member to which the switch is attached:

Fig. 2 shows a sectional view of the switch and the means used for securing the switch in position, said view being a sectional view taken along line 2—2 of Fig. 1;

Fig. 3 is a partial front view of the apparatus with part of the said apparatus broken away; and

Fig. 4 is a partial sectional view taken along line 4—4 of Fig. 2.

Referring now in general to my invention as illustrated, it comprises a switching unit S having an ignition switch I and a lighting switch L, a protective cap C and a mounting or supporting member M which may be the cowl or dash of an automobile. The ignition switch I controls the circuits of the ignition apparatus of the automobile,

and the lighting switch L controls the circuits of the lamps of the automobile. A common lock B is provided for locking the switches I and L against actuation. The mechanism of the switch S is practically the same as is disclosed in my said application, Serial No. 173,084. The cowl M of the automobile is provided with a circular orifice D of a size to receive the cylindrical portion E of the switch S. A slot F is cut in the lower peripheral portion of the orifice D for purposes to be hereinafter explained.

The switch S is provided with an inwardly curved flanged front plate G to which is attached the cylindrical cup-shaped portion H of the switch S which encloses the mechanism of the switch S. The plate G is provided with a counter-sunk or depressed circular portion J adapted to receive a circular name plate K upon which is stamped, impressed or marked in any desired manner the words shown in Fig. 1 of the drawings, or any other suitable and desirable words or characters designating the different switches and their different positions. A tongue N is pressed out of the plate G and extends inwardly, as is shown most clearly in Fig. 2. The tongue N is of a size to fit into the groove F cut in the cowl M. A threaded rod P is secured to the switch S by being riveted to the plate G and to the front portion of the cup H. The threaded rod P is provided with threads R adapted to receive a nut T to secure the mounting plate U, which supports the mechanism of switch S, to the cup H. The cylindrical cup C is provided with an orifice V through which a threaded portion of the rod P extends. A nut X and a lock washer Y are provided for holding the cylindrical cup C in position.

A cylindrical orifice Z is provided in the cup C, through which extends the cable that connects the lighting switch L and the ignition switch I to the apparatus of the automobile. The relay Q is the overload relay shown in the above-mentioned application. The cover C encloses the terminals and the relay of the switch S, and prevents said terminals from being accidentally short-circuited, and also prevents any dust or other foreign material from interfering with the correct operation of the overload relay and the other mechanism of the switch.

To place the switch S in position in the cowl M of the automobile, it is only necessary to insert the said switch in such a manner that the tongue N fits into the groove F cut in the cowl of the car, thereby preventing the switch S from rotating in the circular orifice D of the cowl. The cap or cover C is then placed over the rear portion of the switch S in such a manner that the rod P extends through the orifice V cut in the cap C. The lock washer Y and nut X are then placed on the rod P and the nut X tightened until the cup C securely holds the switch S in its position. When the nut X is tightened, the rear portion C' of the cup C acts to yieldingly hold the switch S in position; that is, the portion C' of the cup C having a certain amount of spring in it places the switch S under tension when the nut X is tightened. To remove the switch S from its position, it is only necessary to loosen the nut X so that the cover C may be removed and the switch S taken out of the circular orifice D.

From the foregoing, it is at once apparent that I have provided a very simple yet efficient means for securing the lighting and ignition switch in position, and at the same time have provided means for preventing any foreign material from gaining access to the mechanism of the switch, and have also prevented the accidental short-circuiting of the terminals of the switch.

In illustrating my invention, I have shown a combination especially adapted for use with a certain type of lighting and ignition switch now in use, but I do not desire to be limited to the exact structure as shown and described as I am aware that my method of mounting may be used for other pieces of apparatus and for other types of lighting and ignition switches and that many modifications and changes will readily suggest themselves to others. Therefore, I contemplate using my invention otherwise than in the particular embodiment illustrated and wish to cover all changes and modifications which come within the spirit and scope of the appended claims.

What I claim as new and desire to secure by United States Letters Patent is:

1. A device of the character described including an electrical switch; a mounting member provided with an orifice for receiving said switch and through which a portion of said switch and the mechanism secured to the back thereof protrudes; a cylindrical cup-shaped member adapted to have its open end mounted against the back of said mounting member, whereby the said cup-shaped member encloses the protruding portion of said switch, said arrangement being such that the said switch and enclosing cup-shaped member may be used in connection with a mounting member of any thickness; a

threaded stud secured to said front plate which extends rearwardly through said switch and an orifice in said cup-shaped member, and locking means associated with the threaded stud for securing said switch in position.

2. A device of the character described including an electrical switch; a mounting member provided with an orifice for receiving said switch and through which a portion of said switch and the mechanism secured to the back thereof protrudes; a cylindrical cup-shaped member adapted to have its open end mounted against the back of said mounting member, whereby the said cup-shaped member encloses the protruding portion of said switch, said arrangement being such that the said switch and enclosing cup-shaped member may be used in connection with a mounting member of any thickness; means extending from said switch into said mounting member for securing said switch in position against rotation; a threaded stud secured to said front plate which extends rearwardly through said switch and an orifice in said cup-shaped member, locking means associated with the threaded stud to secure said switch and cup-shaped member in position, and another orifice in said cup-shaped member through which connecting wires extend to said electrical switch.

3. A device of the character described including an electrical switch provided with a front plate; a mounting member having an orifice for receiving said switch and against which said front plate rests; a groove cut in the peripheral surface of said orifice; an angular rearwardly extending member formed integrally with said front plate and adapted to extend into said groove to prevent rotation of said switch in said orifice; a cup-shaped member adapted to fit over the portion of said switch which extends through said mounting member; and a threaded member connected to said front plate and extending rearwardly through said switch and a central orifice in said cup-shaped member, and locking means associated with the threaded member for securing said switch in position, said cup-shaped member acting as a securing means for holding said switch in position and as a protective means for the terminals on the back of said switch.

4. A device of the character described including an electrical switch provided with a front plate; a mounting member having an orifice for receiving said switch and against which said front plate rests; a cup-shaped member adapted to fit over the portion of said switch which extends through said mounting member; a threaded member extending from said switch through a central orifice in said cup-shaped member, and locking means associated with the threaded

member to secure said switch and cup-shaped member in position, said cup-shaped member yieldingly holding said switch in position.

5. A device of the character described including an electrical switch provided with terminals, a mounting member provided with an orifice for receiving said switch and through which a portion of said switch protrudes, said switch having a projecting portion to engage one surface of said member, a projection on said switch extending rearwardly past said mounting member, a back cover for said switch having an orifice in it through which said projection extends when the cover is in place and into which said protruding portion extends, fastening means for attachment to said projection to press said cover toward said switch, said cover then engaging that surface only of said mounting member opposite that engaged by said projecting portion of said switch to clamp said mounting member between said switch and said cover to maintain said switch in its mounted position and to protect said terminals.

6. A device of the character described including an electrical switch provided with a front plate and having an outwardly extending flange; a mounting member provided with an orifice for receiving said electrical switch, the flange of said front plate resting against said mounting member; a groove cut in the peripheral surface of said mounting member; an integrally

formed angularly disposed tongue for said front plate and adapted to extend into said groove; a cup-shaped member adapted to be mounted against the rear of said mounting member and to extend over said orifice; a threaded stud secured to said front plate which extends rearwardly through said switch and an orifice in said cup-shaped member, and locking means associated with the threaded stud for securing said cup-shaped member to said electrical switch, thereby holding said switch in position, said arrangement being such that said switch may be attached to any thickness mounting member owing to the fact that the part of the switch which protrudes through the mounting member extends into said cup-shaped member.

7. The combination of an electrical switch of the character described, of a mounting plate having an orifice to receive said switch, cooperating means for preventing said electrical switch from rotating relative to said mounting plate, of a cup-shaped cover adapted to be mounted against the rear of said mounting plate and to extend over said orifice, an orifice in said cover, and a threaded stud secured to said switch and adapted to extend rearwardly through the orifice in said cover to yieldingly secure said cover and switch in position.

Signed by me at Chicago, in the county of Cook and State of Illinois, this 12th day of July, 1918.

WILLIAM KAISLING.