

J. W. PHELPS.
 COMBINED LAMP SOCKET AND AUTOMATIC SWITCH.
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937,858.

Patented Oct. 26, 1909.

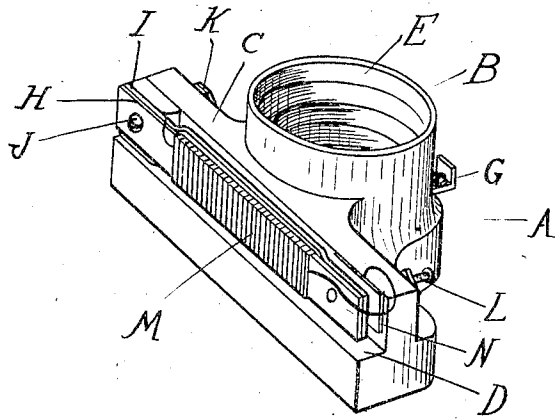


Fig. 1.

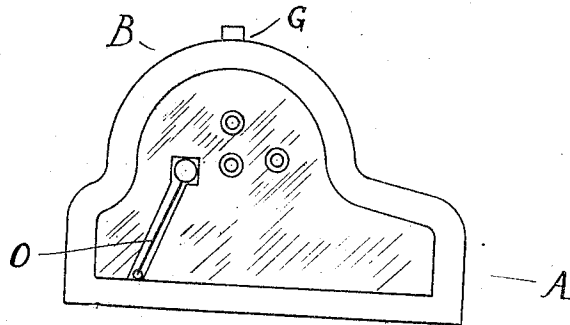


Fig. 2.

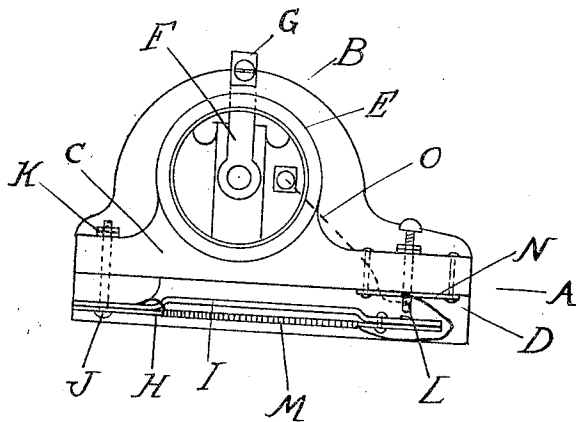


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

JAMES WILEY PHELPS, OF DETROIT, MICHIGAN, ASSIGNOR TO THE ELECTRO-AD COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

COMBINED LAMP-SOCKET AND AUTOMATIC SWITCH.

937,838.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES WILEY PHELPS, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Combined Lamp-Sockets and Electric Switches, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to automatic electric switches of the thermo-dynamic type, and it is the object of the invention to obtain a simple construction of combined lamp-socket and switch, as hereinafter set forth.

In the drawings—Figure 1 is a perspective view of the device; Fig. 2 is a bottom plan view; and Fig. 3 is a top plan view thereof.

A is an insulating block preferably formed of porcelain or other fire-proof material of an insulating nature. This block is formed with a socket portion B, and has at one side of the base thereof a lateral projection C which is preferably elongated to more than the diameter of the socket. This laterally-projecting portion is further provided with an angle recess or rabbet D. The socket is provided with the usual metallic terminal contacts, such as the annular threaded contact member E and the central contact member F, which latter has a shank projecting outwardly through an aperture in the socket B and forming a terminal connection G.

The thermo-dynamic switch is mounted in the angle or rabbet of the block and preferably consists of two bars of metal, H and I, having different coefficients of expansion and connected to each other at opposite ends. One end is secured to a bearing upon the vertical wall of the rabbet by a screw J, the threaded shank of which forms an electrical terminal connection K. The opposite ends of the bars H and I extend into proximity with an adjustable contact member L preferably formed by a screw passing through an aperture in the vertical wall of the rabbet.

M is a resistance coil wound about and insulated from the bar H, one end of this coil being electrically connected to said bar, or the terminal connection J thereof, while the opposite end of the coil is connected with a plate N engaging the adjustable contact L. There is also an electrical connection passing through a channel in the block A, and indicated by dotted lines O, extending from the plate N to the threaded contact member E.

With the construction as described, the bars H and I stand in the position where they are separated from the adjustable contact member L, and in this position an electric circuit is completed from the terminal K through the screw J to the bar H; thence through the coil M to the plate N, and through the conductor O to the terminal contact E. Thus, if the lamp is in engagement with the socket, the circuit will be completed from the contact E through the lamp filament to the contact F, and to the terminal connection G. The current passing through the resistance coil M will produce a heating effect, which will expand the bar H, and this will warp the bar I so as to cause the outer end thereof to contact with the adjustable contact L. The coil M is thus shunted out by the low resistance of the bar I, which will stop the generation of heat and permit the bar H to cool. This in turn will cause the reverse bending of the bar I and the breaking of the circuit at L, reestablishing it through the coil M.

The device constructed, as described, is exceedingly simple and compact in construction, while both the lamp terminals and the thermo-dynamic switch are protected by the block A; furthermore, the extension of the lateral projection C permits of using comparatively long bars in the thermo-dynamic switch, which makes it more positive and accurate in its operation.

What I claim as my invention is:

1. In an automatic electric switch, the combination of an insulator block having a socket portion and a lateral-extension elongated to more than the diameter of said socket and provided with an angle recess, or rabbet, terminal contacts in said socket, and a thermo-dynamic switch mounted in said rabbet and electrically connected with one of said contacts.

2. In an automatic electric switch, an insulator block having a socket portion and an integral lateral-extension at the base of said socket elongated to more than the diameter thereof and provided with an angle recess or rabbet, terminal contacts in said socket, one of which is provided with a shank extending outward and forming a terminal connection, a thermo-dynamic switch mounted in

said rabbet, a heating resistance forming an element of said switch and in permanent connection with one of the contacts in said socket, and a terminal connection for the opposite pole of said heating resistance.

5 3. In an automatic electric switch, the combination of an insulator block having a socket portion and an integral extension extending laterally from one side, the base of
10 said socket elongated to more than the diameter of the socket, terminal contacts in

said socket, a thermo-dynamic switch mounted on said elongated lateral extension, and an electrical connection between said switch and one of said terminal contacts. 15

In testimony whereof I affix my signature in presence of two witnesses.

JAMES WILEY PHELPS.

Witnesses:

NELLIE RINGELLA,
W. J. BELKNAP.