

(No Model.)

L. WINTERHALDER.

ELECTRIC SWITCH.

No. 526,172.

Patented Sept. 18, 1894.

Fig 1

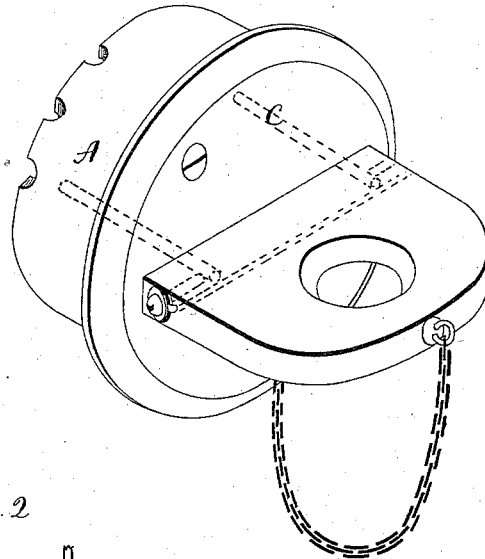


Fig. 2

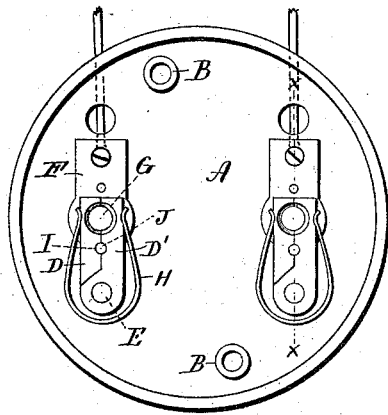


Fig. 3

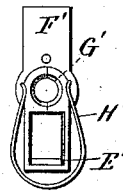


Fig. 4

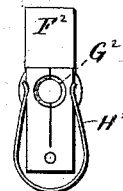
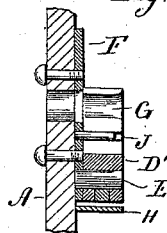


Fig. 5



Witnesses.
J. H. Shumway
Lillian D. Kelsey

Louis Winterhalder
Inventor
By atty
Earle Seymour

UNITED STATES PATENT OFFICE.

LOUIS WINTERHALDER, OF MILFORD, CONNECTICUT, ASSIGNOR TO THE
NATIONAL ELECTRICAL MANUFACTURING COMPANY, OF SAME PLACE,
AND JERSEY CITY, NEW JERSEY.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 526,172, dated September 18, 1894.

Application filed February 17, 1894. Serial No. 500,533. (No model.)

To all whom it may concern:

Be it known that I, LOUIS WINTERHALDER, of Milford, in the county of New Haven and State of Connecticut, have invented a new Improvement in Electric Switches; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a perspective view of the switch complete; Fig. 2, a top view of the switch with the cover removed; Figs. 3 and 4, a modification in the construction of the clamp; Fig. 5, a sectional view on the line $x-x$ of Fig. 2.

This invention relates to an improvement in electric switches, and particularly to that class which are adapted for a current of high voltage.

In the usual construction of switches of this class the clamps are springs formed from light sheet-metal, and frequently the contact is so imperfect as to cause an arc, which so heats the spring as to entirely destroy its temper, and consequently its power to clamp the switch-pin.

The object of this invention is to construct the clamp from heavy or non-elastic metal, and to apply thereto a spring having a bearing on each of the leaves of the clamp, the tendency of the spring being to hold the leaves in contact with the switch-pin or key which is inserted between their faces, and the invention consists in the construction as hereinafter described and particularly recited in the claims.

As herein shown the device is applied to a double-current switch, but it will be understood that it is equally applicable to single-current switches.

A represents the base of the switch, which is of usual construction, and provided with the usual posts B B, for supporting the cover C, and with the necessary openings for the proper connection of the wires of the switch. Preferably the switch is constructed as shown in Fig. 2, in which it is formed from two leaves D D hinged together upon a pivot E

formed on a base-piece F. The said leaves are also each constructed with a semi-circular groove in their adjacent faces near their upper ends, forming an opening G for the switch-pin. To hold the leaves in contact, I provide a spring H, which is preferably of substantially U-shape, and extending around the leaves, has a bearing at opposite points near the upper ends of the leaves. To insure the location of the opening G beneath a corresponding opening in the cover for the admission of the pin, the adjacent faces of the leaves are constructed with grooves I, parallel with the grooves which form the opening G, and upon the base F in line with said grooves, is a stationary stud J, against which the leaves take a bearing and prevent side-wise movement. By this construction if the contact between the pin and the leaves is not a perfect one, the heat caused by the arc formed by such imperfect connection will not so heat the leaves as to render them inoperative, nor will such heat be communicated to the spring with sufficient degree to impair its flexibility.

Instead of forming the leaves of separate pieces and hinging them together, they may be formed of a single piece, as shown in Fig. 3, in which the leaves are formed integral and secured to a post E' mounted on a plate F', the portion of the leaves below the opening for the switch-pin being cut away to permit sufficient flexibility of the leaves. In this case as in the construction before referred to, the adjacent faces of the leaves are grooved to form an opening G' for the switch-pin and the leaves are held in contact by a spring H' which acts in the same manner as the spring H before described.

Instead of cutting away a portion of the leaves to form sufficient flexibility thereof, as just described, they may be formed as shown in Fig. 4, in which the leaves are formed from a solid block riveted to the plate F², a long longitudinal slot being formed inward from its forward end, which will allow the ends of the block to yield. This construction, however, will necessitate a longer block in order to obtain sufficient resiliency. In this case as before described, the adjacent faces are

grooved to form an opening G^2 for the switch-pin and the leaves are held in contact by a spring H^2 , corresponding to the springs H and H' before described.

5 In view of the foregoing it will be understood that various forms of clamps may be employed, the main object of this invention being the auxiliary spring which is applied to the leaves.

10 I claim—

1. In an electric switch the combination with the contact clamp of a **U**-shaped spring having bearings on opposite sides of said clamp, substantially as described.

15 2. In an electric switch, the combination with a clamp formed of two leaves hinged together, of a **U**-shaped spring having bear-

ings on opposite sides of said clamp, substantially as described.

3. In an electric switch, the combination 20 of two leaves hinged together, and secured to a contact-plate, a spring having bearings on opposite sides of the said leaves to hold the same in contact, and a centering-pin arranged between the said leaves, substantially as and 25 for the purpose described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

LOUIS WINTERHALDER.

Witnesses:

FRED C. EARLE,

LILLIAN D. KELSEY.