No. 783,061. PATENTED FEB. 21, 1905.

D. B. MILLS.

ELECTRIC TERMINAL CLIP.

APPLICATION FILED MAY 3, 1904.

Fig. 1.

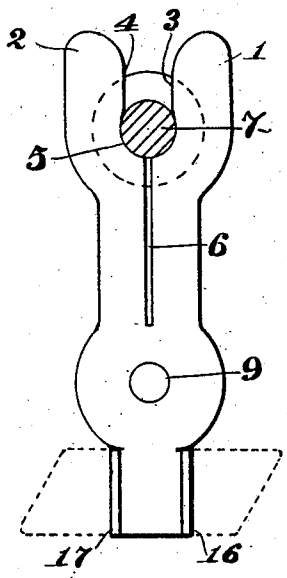


Fig. 2.

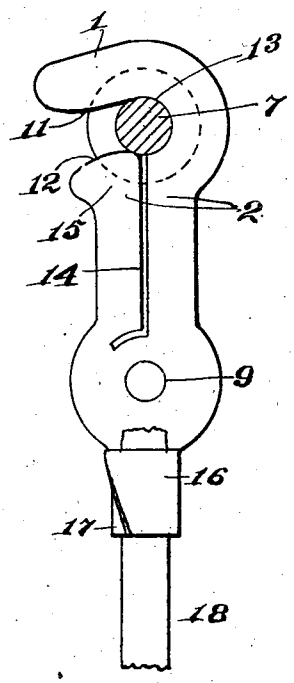
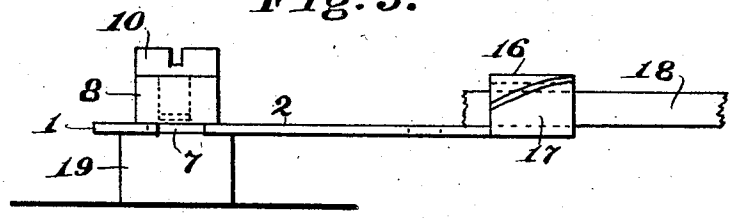


Fig. 3.



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UNITED STATES PATENT OFFICE.

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ELECTRIC-TERMINAL CLIP.

SPECIFICATION forming part of Letters Patent No. 783,061, dated February 21, 1905.

Application filed May 3, 1904. Serial No. 206,198.

To all whom it may concern:

Be it known that I, DAVID B. MILLS, a citizen of the United States, residing at 225 Midland avenue, East Orange, New Jersey, have invented certain new and useful Improvements in Electric-Terminal Clips, of which the following is a clear, full, and exact description.

My invention relates to an electric-terminal clip; and my object is to improve and simplify such devices and to provide a clip which will retain itself upon another terminal.

My invention will be defined in the claims.

In the drawings, which show two preferred forms of my invention, Figures 1 and 2 show alternative constructions in plan view, and Fig. 3 is a side elevation of my clip in place on a terminal post with the wings bent over a conductor.

Detachable terminals are often subjected to conditions which tend to work them loose, thus causing an unintended break in the circuit. This is especially true in the sparking circuits of automobiles, where the terminals are subjected to a continual jarring.

My clip is intended to resiliently grip a terminal post in such a way as to prevent detachment by jarring and to hold itself in place without the necessity of providing any other device to lock the clip in place.

In my constructions I have provided an electric-terminal clip comprising two side portions, which form between them an elongated opening, said opening having a narrow portion and a slightly-larger seat portion, one at least of which side portions is adapted to yield at the narrow portion, so as to enlarge the same, whereby a terminal, such as a post which is larger or greater in diameter than said narrow portion, may pass by it into said seat and be there retained by said narrow portion.

In the drawings, Figs. 1 and 2 show two different forms of clip made according to my invention. The clip is preferably made out of a single piece of resilient flat metal and, as shown in Fig. 1, is provided with two side portions 1 and 2, so shaped as to form an elongated opening having a narrow portion, as indicated, between the points 3 and 4 and a slightly larger seat portion 5. One at least of said side portions is adapted to yield at said narrow portion, and in the construction shown in Fig. 1 I have provided the main portion of the clip with a slot 6, leading from the elongated opening, and in that figure shown as leading from the seat portion. By this construction the two side portions 1 and 2 may be slightly sprung apart, so as to make the distance between the points 3 and 4 wider. 19 is a terminal post which may be used. This post preferably has a non-removable neck 7 of substantially the same size as said seat portion 5, but slightly larger than the narrow portion of said elongated opening. It will be observed that the opening between the portions is made through the plane of said portions—that is, the plane of said portions is transverse to the post when located in said opening and the plane of the portions is not parallel with the axis of the post. It will be observed that the clip may be forced over this neck portion and rest in the seat portion, where it would be retained in place without the necessity of using any other locking means. The post preferably has a head 8 integral with the neck 7 and larger than the same. A hole 9 may also be provided in the clip, if desired, through which a screw 10, tapped into the head 8, may pass, which forms an alternative means for attaching the clip to the post.

In the construction shown in Fig. 2 the clip is formed at one end into a flat hook, the elongated opening forming the hook in this instance. In this construction also the elongated opening is provided with an inner seat portion 13 and an outer narrow portion between the points 11 and 12. This construction also has a slot 14 in it leading from the elongated opening and formed in the main portion of the clip. When the neck 7 is forced against the narrow portion of the opening, this slot will allow the portion 15 of that side to yield, and the neck may be passed into the seat.

16 and 17 are wings formed integral with the clip and which may be bent over an electric cable 18 or other conductor, as shown in Fig. 3.

My clip when in place on the post will be retained by the resilient action of the parts, and this is particularly true of the construc-

tion shown in Fig. 2. It will be observed that in the construction shown in Fig. 3 the post 19 has a flat top and the head 8 is flat on its under side and the opening between the two is such that the clip 2 is adapted to snugly fit the same. My construction is particularly advantageous, because no binding-screws or other locking means need be used, and even if the post is slightly smaller than the seat portion the clip will yet retain itself in place, and although it may be moved from side to side on the post in consequence of the jarring caused by the travel of the automobile such movement will tend to keep the contact-surfaces bright and result in a sufficient electrical contact.

I am aware that other variations of my invention may be made without departing from the scope of the same as herein claimed, and I therefore do not wish to be limited to the particular constructions herein described and illustrated.

What I claim is—

1. An electric-terminal clip made out of resilient metal and comprising two flat side portions forming between them an elongated opening, the flat surfaces of said side portions extending away from said opening, said opening having a narrow portion and a slightly-larger seat portion, one at least of said side portions being adapted to yield at said narrow portion so as to enlarge the same, whereby a terminal larger than said narrow portion may pass by it into said seat and be there retained by said narrow portion.

2. An electric-terminal clip made out of a single piece of flat spring metal and comprising two flat side portions lying in the same plane and forming between them an elongated opening through the plane of said portions and having a narrow portion and a slightly-larger seat portion, said clip having a slot therein leading from said opening, whereby one at least of said side portions may yield at said narrow portion so as to enlarge the same, whereby a terminal larger than said narrow portion may pass by it into said seat and be there retained by said narrow portion.

3. An electric-terminal clip made out of a single piece of flat spring metal and comprising two flat side portions lying in the same plane and forming between them an elongated opening through the plane of said portions and having a narrow portion and a slightly-larger seat portion, one at least of said side portions being adapted to yield at said narrow portion so as to enlarge the same, and a terminal post provided with a flat-topped neck and a head flat on the under side, said neck being slightly larger than said narrow portion but adapted to be contained in said seat portion, said clip being adapted to fit between the flat under side of said head and the top of said neck.

4. An electric-terminal clip made out of a single piece of flat spring metal and comprising two flat side portions lying in the same plane and forming between them an elongated opening through the plane of said portions and having a narrow portion and a slightly-larger seat portion, said clip having a slot therein leading from said seat portion, whereby one at least of said side portions may yield at said narrow portion so as to enlarge the same, whereby a terminal larger than said narrow portion may pass by it into said seat and be there retained by said narrow portion.

5. An electric-terminal clip made out of a single piece of resilient flat metal, said clip having a main portion and formed at one end into a flat hook, the hook-opening being transverse to the plane of said hook and having an inner seat portion and an outer narrower portion, the main portion of said clip having a slot therein leading from said opening whereby a part of said hook may yield at said narrower portion and enlarge the same to allow a terminal larger than said narrow portion to pass the same and be retained thereby in said seat.

Signed at New York, N. Y., this 23d day of April, 1904.

DAVID B. MILLS.

Witnesses:

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