

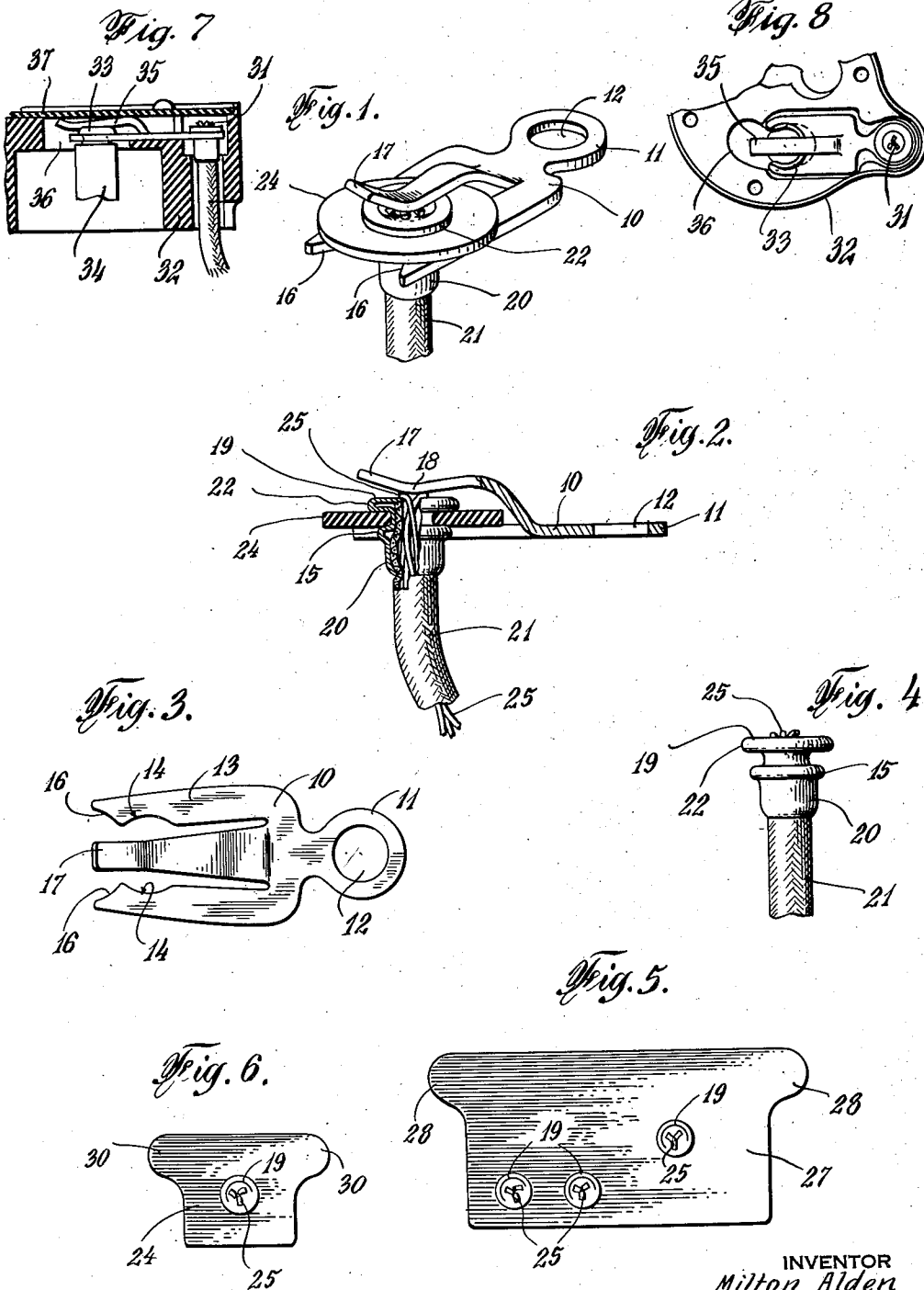
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TERMINAL CLIP

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TERMINAL CLIP

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1 Claim. (Cl. 173-269)

This invention relates to terminal clips adapted to receive and make electrical contact with wire terminals and the like. This invention embodies certain features of the device shown in my copending application Serial No. 300,925, filed October 24, 1939, of which it is a continuation in part.

One object is to provide a connector clip for effective engagement with the terminal of a wire conductor of the type set forth in said copending application.

A further object is to provide in a terminal clip of the type described, means for exerting pressure upon a wire terminal from a plurality of directions at the same time so that rattling of the terminal in the clip may be prevented.

Another object of this invention is to provide a clip into which a wire terminal provided with a washer may easily be inserted and from which such wire terminal may easily be extracted when so desired.

A further object of the invention is to provide a terminal clip which can make contact directly with the wire itself, which latter enters the terminal while at the same time contact is made with the terminal which is fastened upon the wire, so that both electrical and mechanical contacts to the wire may be made in a way which will assure minimum resistance and maximum precaution against accidental poor connection being made, even though the electrical connection of the wire with the body of the terminal be poor.

Fig. 1 is a perspective view of one form of this invention showing the clip attached to the wire terminal.

Fig. 2 shows, partly in section, the structure of Fig. 1.

Fig. 3 is a plan view of the clip only.

Fig. 4 is an elevation of a wire terminal adapted to receive the clip of Figs. 1, 2 and 3.

Fig. 5 shows one possible arrangement of a plurality of terminals upon a single strip of insulation, in keyed relation to each other for receiving clips which may be similarly keyed on a support.

Fig. 6 shows a modified form of wire terminal.

Fig. 7 is a fragmentary sectional view showing a special application of one form of clip of my invention.

Fig. 8 is a plan view showing the clip of Fig. 7.

Referring now to the drawing, the clip body 10 is in the shape of a modified fork, having a head 11 for the attachment of a conductor. This fork may have an opening 12. Two resilient fingers or arms 13, 13 of the fork lie in the same plane as the body 10, and each is provided with a curved jaw

portion 14 for engagement with the side wall 15 of a wire terminal, and also with a bevelled surface 16 for promoting the ready entrance of such terminal within the clip body.

The center finger or tine 17 of the fork is offset from the plane in which the other tines lie and is bowed out for greater springiness, while at 18 it again approaches the plane of the body proper so that it may contact the end surface 19 of the wire terminal to which it is applied.

The preferred wire terminal is more fully described in my copending application above referred to, and consists of a metal shell 20 preferably crimped, turned in, or contracted upon the insulation 21 of a wire, and provided with two circular ridges or flanges 15 and 22. A washer 24 of any suitable material such as insulation may be provided as shown in Fig. 2, lying between the flanges 15 and 22 and which may serve to guide the terminal into position and aid in forcing it to the very bottom of the pocket in the fork. Likewise this washer is of assistance in facilitating the removal of the terminal from the clip, as it extends beyond the sides of the fork and may, as shown in Fig. 6, be formed with ears 30, 30 still further to facilitate withdrawal of the terminal from its seat in the clip.

The terminals such as shown in Fig. 4 frequently have the bare ends 25 of the strands of the conductor extend beyond the end surface of the terminal and they afford an especially good electrical contact with the center finger 17 of the clip. When the ends of the strands are soldered in place, the spot of solder may constitute the contact part of the end of the terminal, or the wire ends may project through the solder and make direct connection with prong 17. In any case it may be seen that the middle prong will press directly upon the end of a conducting part of the terminal wire, so that current flow will not be compelled to pass through the intermediary of the part 15, but can pass directly from clip to wire.

It is possible to arrange several of these wire terminals upon a single insulating support 27 as shown in Fig. 5, which may conveniently be provided with ears 28, 28 so as to serve as a handle in separating the clips from the terminals. Such a clip may be used in an electronic switch socket such as shown in Figs. 7 and 8. Here the clip is connected to the end of the conductor 31 and mounted in an insulating body 32 in such a way as to permit the clip to turn somewhat about the axis of the conductor. The clip is provided with up-turned lips or flanges 33 adapted to receive the tip

34 of a prong beneath the center finger 35. In devices of this type the prong is frequently inserted into an arcuate slot 36 and turned about an axis of the body until the prong engages the clip. By permitting the clip to turn on its axis the prong is assured of a more perfect contact. It will be noted that in this case the tip of the finger 35 touches the wall 37 of the cover of the body so that when the prong 34 is inserted the finger is placed under additional pressure which thus furnishes a more perfect connection mechanically and electrically.

Other purposes and uses of my invention will be apparent to those skilled in the art and I do not limit myself to the exact forms here shown.

I claim:

A terminal clip construction comprising an in-

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sulating body, a clip supported therein and having two spaced fingers and a central finger of resilient material biased toward the space between the two spaced fingers and having a portion thereof displaced so as to lie in a plane farther removed from the plane of the two spaced fingers than the plane in which the contact making portion of the central finger lies, and discrete relatively unyielding means against which said displaced portion of the central finger will be resiliently forced when a prong is slid between the two spaced fingers whereby additional pressure is resiliently exerted tending to force the central finger against said inserted prong.

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