

March 20, 1928.

L. E. BALTZLEY

1,662,946

WIRE TERMINAL

Filed Feb. 1, 1926

Fig. 1.

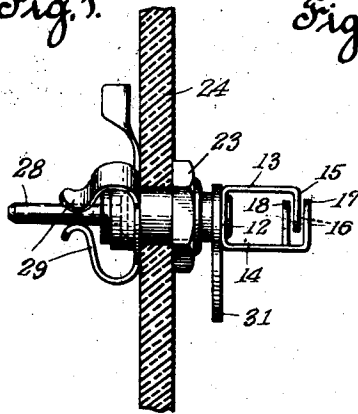


Fig. 2.

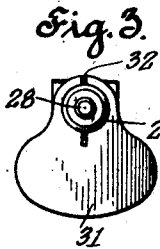
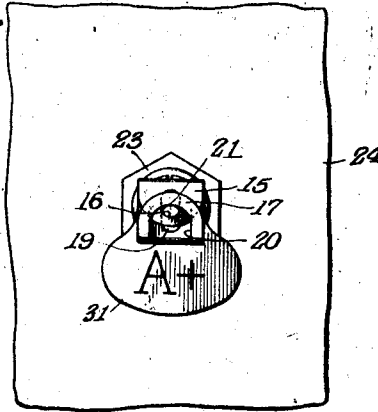


Fig. 4.

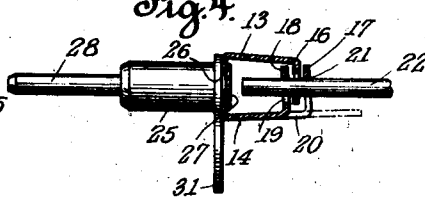


Fig. 5.

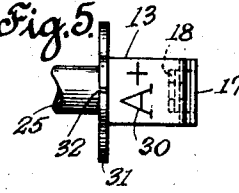


Fig. 6.

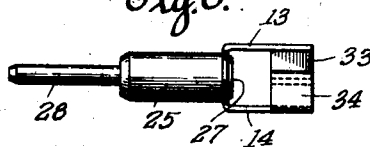


Fig. 7.

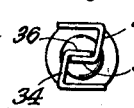


Fig. 8.

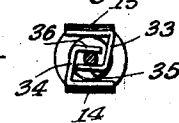


Fig. 9.

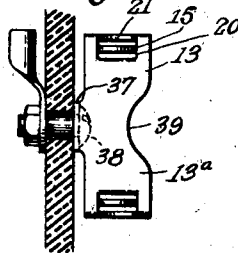


Fig. 10.

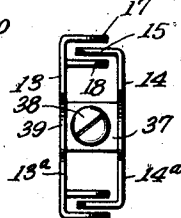
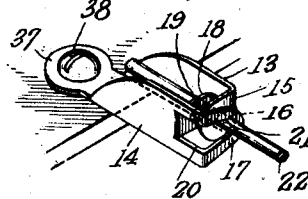


Fig. 11.



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WIRE TERMINAL.

Application filed February 1, 1926. Serial No. 85,101.

The objects of this invention are to provide a terminal clip for wire ends, cord tips and the like, which will securely hold the inserted wire end, tip or other element and make good electrical contact therewith, which can be readily operated to instantly grip or release the wire end and which in addition to these practical advantages will be of neat appearance, small compact form and inexpensive construction.

The foregoing and other desirable objects are attained by certain novel features of construction, combination and relation of parts as hereinafter set forth in detail.

In the drawing accompanying and forming part of the specification, the invention is illustrated embodied in a number of different forms and applied to a number of different uses, but it is to be understood that the structure may be further modified and the device may be applied to other purposes without departure from the spirit and scope of the invention as hereinafter defined and broadly claimed.

Figures 1 and 2 are side and end views respectively of a form of the terminal as constructed for and used with a spring cord tip socket.

Figure 3 is a view of the tip end of the clip.

Figure 4 is a part sectional side view of the same.

Figure 5 is a broken plan view of the clip.

Figures 6, 7 and 8 are side and end views of a modified form of the clip, the latter of these showing the wire in section entered between the jaws of the clip.

Figures 9 and 10 are side and face views respectively of a double form of the terminal shown applied directly to a panel.

Figure 11 is a detail of a single terminal constructed after the manner indicated in Figures 9 and 10.

The terminal consists in the main of a pair of spring jaws which when pinched together will open to receive the wire end and which when released will separate in a way to yieldingly grip between them, the inserted wire end or other element.

In the first disclosed form of the invention, Figures 1 to 5, the clip is made of a single continuous strip of sheet metal bent into substantially U-form to provide an intermediate base or attaching portion 12 and two more or less parallel side arms 13, 14. The end of the first of these side arms is turned at an angle at 15 and perforated at

16 to form one of the jaws of the clip. The cooperating jaw is provided by angularly turned extensions 17, 18 on the other spring arm, standing at opposite sides of the first jaw and in overlapping relation therewith. The jaw element 18 is perforated at 19 and this element is shown as formed out of the body of the spring arm 14 by severing the latter along the parallel lines 20 to near the end of the arm and then bending this severed portion inwardly substantially at a right angle parallel to the angularly bent end 17. The cutting of this secondary jaw out of the main jaw leaves the latter (17) with an end opening at 21 substantially in register with the opening 19.

Figure 4 shows how the secondary jaw 18 is partially severed from and bent up out of the main jaw 17 and this view also shows how the parts can be pinched together to bring the openings 19, 21 in the one jaw in register with the perforation 16 in the other jaw and how after the wire end cord tip, bus bar or the like has been passed endwise through the openings in the pinched-together jaws, said jaws will spring apart when released to firmly grip the inserted element therebetween.

Where the terminal is to be used with a spring cord tip socket or the like, such as indicated at 23 in Figures 1 and 2, mounted on a panel 24, the base of the clip may be fashioned as or attached to a pin or plug for entry in such a socket. This pin is indicated at 25 and is shown as attached to the base of the clip by having a neck portion 26 at the outer end of the same extended through an opening provided in the base of the clip and headed over at 27 to rivet the parts securely together. The form of the pin may vary to suit different kinds of sockets, but in the present instance it is shown as having a larger outer end or body portion to fit the bore of the socket and a reduced inner end extension 28 to engage the spring fingers 29 at the inner end of the socket.

For identification purposes the clips may be marked as by impressing suitable identifications 30 directly on the sides of the spring jaws (Figure 5) or by applying marker plates 31 over the shanks of the pins 25. The latter method has the advantage of being readily changeable. These markers may be made of suitable sheet material punched to fit over the shanks of the pins

and may be split as indicated at 32 so as to hold themselves in place by spring tension.

The form of the invention illustrated in Figures 6, 7 and 8 differs from the first 5 mainly in the shape and structure of the gripping portions of the spring jaws. Instead of the perforated overlapping jaw elements, lugs 33, 34 are bent inwardly toward each other from the ends of the substantially parallel spring arms and at approximately a central point between the 10 arms, these lugs are again bent angularly to form overlapping hooks or jaws 35, 36 which when the arms are pinched together, can be spread apart to receive between them the 15 inserted wire end, as indicated in Figure 8. It will be noted in Figures 7 and 8 that these transversely extending lugs are turned inward from diagonally opposite edges of the 20 spring arms so as to bring the two ends into overlapping relation so that they are confined or limited in their spreading action, one by the other.

In the panel mount form of terminal 25 shown in Figures 9 and 10, the overlapping perforated jaw structure of Figures 1 to 5 is employed, but in this case the spring arms 13, 14 instead of being bent up in complete U-form, are turned up from the sides of a 30 base piece or connecting strip 37 disposed substantially at a right angle to the parallel planes of the side arms, but in a plane parallel to the length of said spring arms. When secured by a screw or other fastening 35 device 38 on the panel or other support, this form of base brings the spring jaws of the terminal close up against the face of the panel in substantial parallelism, instead of 40 projecting outwardly therefrom as would be the case with the form and arrangement of base shown in the preceding figures.

Another special feature of the terminal shown in Figures 9 and 10 is its double ended character, there being an extra set of 45 the spring arm jaws 13^a, 14^a shown extended from the opposite end of the supporting base 37 substantially as continuations or rearward extensions of the first jaws. The two sets of jaws are rendered independently 50 resilient in the illustration by cutting down the two sides of the double clip, as indicated at 39.

The form of clip last described is particularly useful for mounting on a panel or 55 flat base and may be in either single or double form. The single form of terminal is illustrated in Figure 11, which shows the structure substantially the same as in Figure 10, but having only the one pair of wire 60 gripping arms connected at their ends by a flatwise arranged base which can be secured by a screw or the like in flat engagement upon a panel or other suitable support.

From the disclosure it will be seen that 65 the terminal of this invention is a particu-

larly simple structure, compact and inexpensive, that it can be quickly opened to receive a wire or other conductor, that it can be mounted in various ways and applied to different instrumentalities and that a conductor inserted therein is gripped firmly and 70 securely from a mechanical point of view and is held in good conducting relation, considered from the electrical standpoint. The pin terminal and the panel type forms of 75 bases illustrated answer many requirements and enable the terminal to be used in many different ways. It will be apparent that by modifying the form of the base structure, the terminal may be positioned in different 80 angular relations and be made applicable to various electrical devices as for example, by suitable modification the terminals might be used in conjunction with an ordinary telephone plug. 85

What is claimed is:

1. A wire terminal of the character disclosed, comprising spring arms standing in substantially parallel relation, one having an angularly turned apertured lug at the free 90 end thereof and the other having an angularly turned end lug overstanding the first mentioned end lug and a second lug cut out of the body of the end lug and bent inwardly into position understanding the lug 95 of the first spring arm, said cut out lug being perforated and the taking of such lug from the body of the parent lug leaving said parent lug with a wire receiving end opening in substantial alinement with the aperture 100 in the cut out lug.

2. A wire terminal of the character disclosed, comprising resiliently related jaws, one having an apertured jaw element entered between companion apertured jaw 105 elements of the other jaw, one of said two companion jaw elements being formed of material partially severed and bent out from the other companion jaw element and perforated in line with the opening left in 110 said other jaw element by the removal of said partially severed jaw element.

3. A substantially U-shaped wire terminal having spring arms connected by an attaching base, one of said arms having an inturnd apertured lug at the free end thereof, 115 the other spring arm having an inturnd apertured lug at the free end thereof and a second apertured lug spaced from said end lug, said apertured lugs of the spring arms 120 standing in overlapping relation and the apertures therein being positioned to register when the spring arms are pinched together, said second lug being formed by a strip of material taken out of the end lug and thereby leaving said end lug perforated to receive the inserted wire. 125

In witness whereof, I have hereunto set my hand this 25th day of January, 1926.

LOUIS E. BALTZLEY.