

Nov. 1, 1932.

E. F. POTTER

1,885,477

TERMINAL

Filed June 9, 1930

Fig. 1.

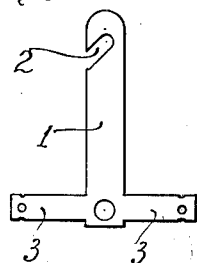


Fig. 2.



Fig. 3.

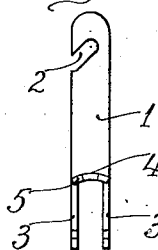


Fig. 4.

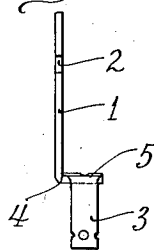
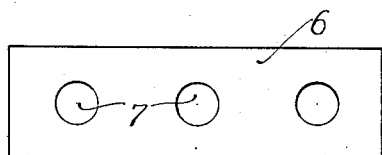


Fig. 5.

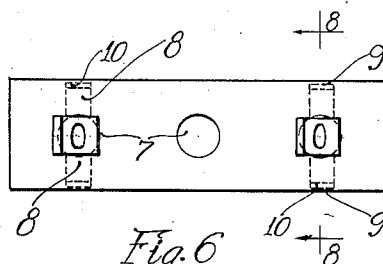


Fig. 6.

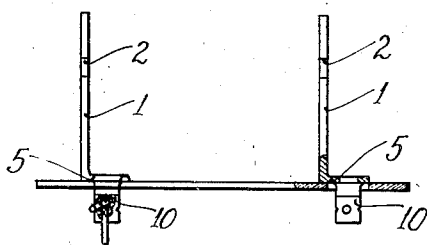


Fig. 7.

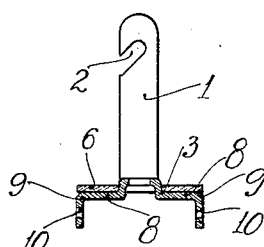


Fig. 8.

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UNITED STATES PATENT OFFICE

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TERMINAL

Application filed June 9, 1930. Serial No. 459,885.

The present invention relates to electrical terminals and more particularly to terminals for condensers, transformers, and all types of coils used in radio, telephony and the like.

It is the purpose of this invention to produce an electrical terminal which will provide a permanent and substantial connector to which electrical wires may be secured with ease and permanency. To be practical, a terminal of this type must have several inherent characteristics, among which cheapness, permanency and adaptability are the foremost. It must be of simple design and when installed it must provide a permanent and rigid connector and not subject to become loosened when handled to install wires and the like. It has been a problem in this field of manufacture to provide such a terminal which will meet these qualifications successfully.

The usual terminal now on the market necessitates the cutting of a series of holes in the insulator for the reception of the base portion of the terminal. These types of terminals are unsatisfactory and in many cases impractical. In the pending application of David D. Cooper, Serial No. 330,827, filed January 7, 1929, for Terminal, is disclosed a new and improved type of terminal which does away with the objections noted in connection with the older types. The Cooper application teaches generally the method of forming a terminal and installing the same in an insulator body. Among other novel features, the aforesaid application discloses the assembling of a squared terminal lug in the round hole of an insulator to provide a permanent and rigid terminal. This type of terminal is highly satisfactory and successful in most instances, but there are some cases in which this type of terminal is at a disadvantage, for the reason that it is impossible to attach a wire to the base of the terminal. A connection is made to this earlier terminal by running the wire through a hole in the base of the lug and insulator and soldering the same to the stem of the terminal. Oftentimes this is impossible and, therefore, I have improved upon the general features of this type of terminal by providing extend-

ed lug portions which project downwardly below the insulator, to which connections can be made.

Now to acquaint those skilled in the art with the teachings of my invention, reference is made to the accompanying drawing, in which details of a preferred embodiment are disclosed.

In the drawing:

Figure 1 is a plan view of the terminal blank;

Figure 2 is an elevational view of the blank;

Figure 3 is a front view of the formed terminal;

Figure 4 is a side view of the formed terminal;

Figure 5 is a plan view of the insulating strip;

Figure 6 is a view of the strip with the terminals mounted thereon;

Figure 7 is an elevational view of the Figure 6 with a part of the strip cut away to show the details of the mounting; and

Figure 8 is a sectional view of Figure 6, taken along the line 8—8.

Now referring more particularly to Figures 1 and 2, 1 indicates the main body portion of the blank, which body portion is provided with a slot 2 at its upper end, which slot forms the customary terminal end to which wires may be secured. On the opposite end of the body portion 1 are lugs 3 which project from it at right angles to its axis. The terminal is formed by bending the portion of the blank at 4 to form a foot 5 disposed at substantially right angles to the plane of the body portion. The projecting lugs 3 are bent downwardly from the foot portion 5 into a position in which they are parallel to each other, at right angles to the foot portion and at right angles to the plane of the body portion 1, as is shown in Figures 3 and 4. During the bending of the lugs 3 into this position, the foot portion 5 is arched upwardly, and this arched condition of the foot is employed for a purpose which will be hereinafter more fully brought out. In the drawing the foot portion 5 is perforated with a single hole, although if desired this perfo-

ration may be omitted within the teachings of my invention.

The terminals thus formed are then mounted upon an insulating strip 6 by pressing the lugs 3 through the circular hole 7 in the strip. The insulating strip may be made of fiber or paper impregnated in a suitable moisture proofing compound such as a phenol condensation product or wax which renders it constant and unaffected by temperature and humidity variations.

It will be noted that the diagonal of the square formed by the four edges of the lugs 3 is slightly greater than the diameter of the hole 7 in the insulator. And that as a result when the lugs are pressed through the insulator, the edges of the hole are cut away by the edges of the lugs.

The projection of the lugs through the insulator is continued until the under surface of the foot 5 registers with and is seated upon the upper surface of the insulator 6. The projecting ends of the lugs are next bent outwardly against the lower surface of the insulator and are swedged in place thereagainst to securely bind the terminal to the insulator.

As is clearly shown in Figures 7 and 8, this swedging operation flattens the arched foot 5 thereby increasing the diagonal dimension of the square formed by the edges of the lugs 3 and forcing those edges further into the edges of the holes 7 of the insulator. This swedging action therefore securely draws the foot 5 against the upper surface of the insulator by forcing the bent portion 8 of the lug 3 against the lower surface to thereby securely fasten the terminal against movement with respect to the insulator longitudinally of the axis of the terminal. The forcing of the edges of the lugs 3 into the insulator securely keys the terminal against rotation with respect to the insulator.

Preferably the outer portions 10 of the lugs 3 are bent downwardly at right angles to the plane of the portion 8 to form connecting lugs to which wires may be attached. Obviously if desired to do so, these portions 10 may be positioned at an angle less than 90° with respect to the portion 8, or they may be left in the plane of that portion 8 within the teachings of my invention.

The end portions 10 of the lugs 3 are formed with suitable perforations or indentations so that wires may be readily attached to them. The particular shape of these portions being optional within the teachings of my invention.

While I have chosen to illustrate and describe a preferred embodiment of my invention, I have done so by way of example only as there are many modifications and adaptations which may be made by one skilled in the art within the teachings of my invention, and

I am not therefore to be limited except by the scope of the appended claims.

What I claim is:

1. The method of forming a terminal on an insulating member which comprises, forming a substantially square edged portion having depending lug portions on the terminal, piercing an insulating member with a round hole of slightly smaller diameter than the diagonal dimension of said square edged portion, forcing said square edged portion through said round hole, swedging said square edged portion to lock it in place, and bending the ends of said lug portions at an angle to the swedged portions.

2. In combination with an L-shaped electrical terminal, lugs disposed below said L and having the outer edges thereof defining a polygonal area, and an insulator containing a round hole through which said lugs are forced, the portion of the lugs projecting through the insulator being swedged over against the insulator, and the end portions of said lugs being bent at an angle to said swedged portions to provide connecting means for the terminal.

3. A terminal strip comprising an insulator containing a round hole, a terminal having a foot resting on one face of said insulator, and projections on said foot forced through said hole, said projections having their edges forcibly embedded in the inner periphery of the insulator hole, extensions of said projections formed against the other face of said insulator, and connecting means formed by bending the ends of said extensions at an angle to the insulator.

4. In combination, a terminal having a body, a foot formed at right angles thereto and two parallel lugs extending from said foot at right angles to both said foot and body, an insulator having a round hole through which said parallel lugs are forced, a central portion of said lugs being bent to draw said foot tightly against said insulator to rigidly mount the terminal thereon, the end portions of said lugs being disposed at an angle to said central portion for receiving an electrical wire.

5. In combination, a terminal having a body, a foot formed at right angles thereto and two parallel lugs extending from said foot at right angles to both said foot and body, the outer parallel edges of said lugs being disposed on a circle, an insulator containing a round hole of a diameter slightly smaller than that of said circle through which hole said parallel lugs are forced, a middle portion of them being bent to draw said foot tightly against said insulator to rigidly mount the terminal thereon, and end portions of said lugs disposed parallel to each other and at right angles to the middle portions.

6. An L-shaped sheet metal terminal post comprising a stem and a base portion, said

base portion having a pair of oppositely extending shoulders, the base portion between said shoulders being arched, and depending tangs on said shoulders substantially parallel to each other.

5 In witness whereof, I hereunto subscribe my name this 5th day of June, 1930.

EARL F. POTTER.

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