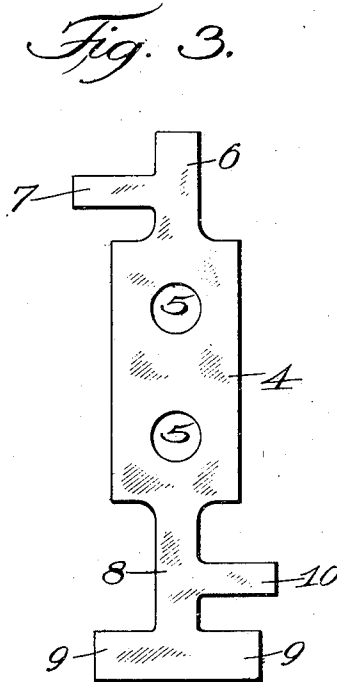
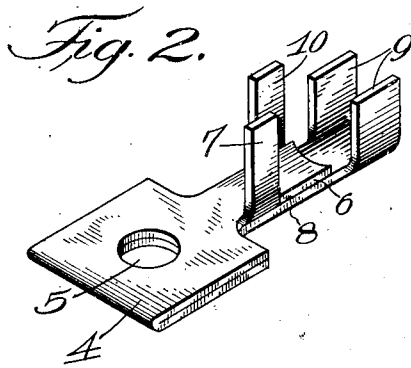
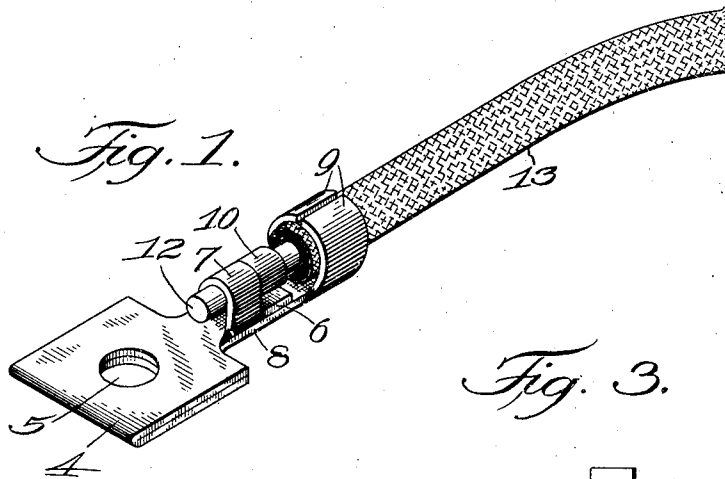


H. J. WIEGAND.
 TERMINAL LUG.
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Patented July 15, 1913.



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UNITED STATES PATENT OFFICE.

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TERMINAL LUG.

1,067,702.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY J. WIEGAND, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Terminal Lugs, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to improvements in terminal lugs for electrical conductors and more particularly to those formed of sheet metal.

One object of my invention is to provide a sheet metal terminal lug capable of carrying heavy currents and yet so constructed as to enable the same to be easily and conveniently attached to electrical conductors.

Various other objects and advantages of my invention will hereinafter be clearly and fully set forth.

According to the preferred form of my invention, I form the terminal lug of a single piece of sheet metal so folded, or bent upon itself as to form a body portion of a plurality of thicknesses of the material, and lugs of a single thickness of material for clamping onto the conductor to which it is to be attached.

In order to more clearly and fully disclose the nature and advantages of my invention, I shall describe the device illustrated in the accompanying drawing, which embodies my invention in its preferred form.

My invention, however, is not limited to the specific structure illustrated, but is capable of various modifications.

In the accompanying drawing, Figure 1 is a perspective view of the terminal device connected to an electrical conductor. Fig. 2 is a perspective of the terminal lug before attachment to the conductor, and Fig. 3 is a plan of the blank from which the terminal lug is formed.

The formation of the terminal lug will be best understood by reference to Figs. 2 and 3 of the drawing. Referring first to Fig. 3, it will be seen that the blank comprises a substantially oblong main portion 4 having two openings 5 therein, of the same diameter and equidistant from the opposite ends of the portion 4 disregarding the extensions,

which will be hereinafter described. One end of the main portion 4 is provided with an extension 6 of less width than said main portion, which extension is provided substantially midway of its extremities with a laterally extending lug 7. At its opposite end, the main or body portion 4 is provided with an extension 8 similar to the extension 6, but preferably slightly longer than the same for the purpose hereinafter described. At its outer end the extension 8 is provided with similar laterally extending lugs 9 projecting in opposite directions and preferably in alinement. The extension 8 is also provided intermediate of its extremities with another laterally extending lug 10. The lugs 7 and 10 are preferably arranged at different distances from the main or body portion 4, and upon opposite sides thereof, the difference in distance preferably being at least equal to the width of one of said lugs for a purpose hereinafter set forth. As will be hereinafter described, the lugs 7, 9 and 10 form the means for securing the terminal to a conductor, and, hence, the design and dimensions thereof should be governed more, or less, by the type and size of conductors for which they are intended to be employed. In determining the size of the main body portion 4, regard should be had to the amount of current which it is desired to have the terminal carry. A blank, such as that illustrated and described, may readily be formed of a single piece of sheet metal of any desired thickness and may be readily stamped, or punched at a single operation.

To produce the device illustrated in Fig. 2 it is only necessary to bend the body portion of the blank upon a transverse line equidistant from the extremities thereof, and then bend the lugs 7, 9 and 10 substantially perpendicular thereto. Bending the body portion 4, in the manner just described, will make the body portion double the thickness of the sheet metal employed, thereby producing a body capable of carrying a much higher current than a terminal formed of a single thickness of the same material. When the body portion is folded upon itself, as described, the openings 5 therein will be brought into alinement, thereby producing one continuous opening through the two thicknesses of the body portion for the re-

ception of a binding post, or the like. In forming the device, illustrated in Fig. 2, I prefer to bend the lugs 7, 9 and 10, in such a direction that the longer extension 8 of the main body portion will be on the outside. At the same time that the lugs are bent upwardly, the overlapping extension 6 and 8 may be curved transversely to a slight degree, if desired. The bending and formation of the blank in the form illustrated in Fig. 2, is a very simple operation, and one which can be quickly performed.

The manner of attaching the terminal lug to an electrical conductor is clearly illustrated in Fig. 1. Referring to Fig. 1, I have shown an electrical conductor comprising a wire 12 having a suitable insulating covering 13, the insulating covering on the extremity of the wire being removed to permit of the attachment of the terminal lug. To attach the terminal lug, it is only necessary to lay the bare wire against the extension 6, then bend the lugs 7 and 10 over the wire in opposite directions, and then bend the extensions 9 over the extremity of the insulating covering. By spacing the lugs 7 and 10 and arranging the same on opposite sides of the terminal in the manner previously set forth, it will be seen that the same will clamp the wire from opposite sides and both may be firmly pressed into engagement with the wire. The lugs 9 being bent around the insulating covering form an additional clamp for the terminal lug, and at the same time reinforce the unprotected extremity of the insulating covering. Furthermore, by terminating the extension 6 in the manner illustrated, compensation is made for the insulating covering which allows the lugs 9 to be forced into close engagement with the insulating covering all the way around the same. The lugs 7, 9 and 10 being of a single thickness of material may be readily bent around the conductor and in close engagement therewith. This not only insures a good electrical connection between the conductor and the terminal lug, but also facilitates soldering of the two together. A lug, such as that illustrated, may be readily soldered with an ordinary soldering iron, whereas a blow torch is required where the lugs are formed of heavier material.

It will thus be seen that in accordance with my invention I am enabled to secure a lug with a very substantial body, or in other words, with a large mass of conductive material, at the points where the same is most needed, and relatively thin and pliable lugs for attachment to the conductor all formed of a single piece of metal.

Obviously, various changes could be made in the design and dimensions of the blank and in the relative arrangement of the attaching lugs without departing from the

scope of my invention, and I, therefore, desire to have it understood that my invention is not limited to the particular device illustrated and described herein. It should also be understood that the main conducting parts might be made of more than two thicknesses, if desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A terminal lug comprising a plurality of layers of sheet metal each of said layers having a lug to clamp onto an electrical conductor to make electrical connection therewith.

2. A terminal lug comprising a plurality of layers of sheet metal, each layer having a lug for clamping onto and making electrical connection with a conductor, and one of said layers having a lug for clamping onto the insulating covering of the conductor.

3. A terminal lug comprising a plurality of layers of sheet metal, each layer having a lug for clamping onto and making electrical connection with a conductor, and one of said layers having a lug for clamping onto the insulating covering of the conductor, said first mentioned lugs being arranged in a staggered relation and each substantially surrounding the conductor.

4. A terminal lug comprising a strip of sheet metal folded to form a duplex main portion having a lug to clamp onto an insulated conductor, and a lug on each layer thereof to clamp onto an exposed portion of the conductor.

5. A terminal lug comprising a strip of sheet metal folded to form a duplex main portion having a lug to clamp onto an insulated conductor and a lug on each layer thereof to clamp onto an exposed portion of the conductor, said second mentioned lugs being arranged in a staggered relation and each substantially surrounding the exposed portion of the conductor.

6. A terminal lug comprising a substantially oblong sheet metal blank provided at opposite ends with extensions of reduced width and with laterally extending lugs on said extensions, certain of said laterally extending lugs projecting in opposite directions, said blanks being adapted to be bent on a transverse line to cause the extensions thereof to overlap, and said laterally extending lugs being adapted to be bent substantially perpendicular to the blank to afford means for attachment to an electrical conductor, certain of said laterally extending lugs being out of alinement when the blank is folded and each being adapted to directly engage and substantially surround the electrical conductor to which the terminal lug is attached.

7. A terminal lug for electrical conduc-

tors comprising a duplex metal strip having clips formed at one end thereof, said clips being co-axial and longitudinally adjacent, and including a clip to engage the uninsu-
5 lated portion of the conductor and a clip on each layer of metal to engage an exposed portion of the conductor.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

HENRY J. WIEGAND.

Witnesses:

A. HALVERSON,
M. R. FENNO.