Feb. 8, 1927. 1,616,847

A. E. FEIGE

GROUND CLAMP

Filed May 5, 1925

Fig. 1,

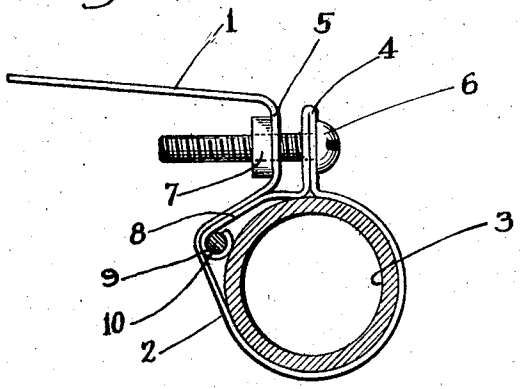
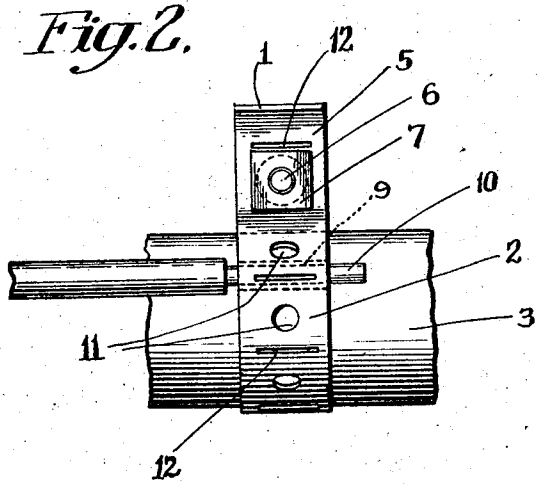


Fig. 2.



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UNITED STATES PATENT OFFICE.

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GROUND CLAMP.

Application filed May 5, 1925. Serial No. 28,053.

This invention relates to ground clamps such as are used for electrically connecting an electrical wire to a metallic body such as a pipe for grounding the wire.

The object of this invention is to provide a simple, efficient and inexpensive device which is adapted to cheap and rapid production.

Another object is to provide a device which will securely clamp the wire in such a way that the connection will not be dependent upon soldering or other means of fastening.

Further objects and advantages of the invention will more fully appear from the following description taken in connection with the accompanying drawings illustrating, by way of example, the preferred embodiment of the invention.

Referring to the drawings:

Fig. 1 shows an end view of the ground clamp, in use; and

Fig. 2 shows a side view of the same.

Referring to the drawings and more particularly to Fig. 1: The ground clamp as shown comprises a body preferably formed of a strip 1 of soft metal, such as copper, which is a good conductor of electricity. This strip is bent as shown to form an encircling portion 2 adapted to pass around the metallic body such as a pipe or rod 3, to which a wire is to be grounded, and is provided with portions 4 and 5 extending exteriorly of the encircling member and adapted to be engaged by suitable adjusting means such as bolt 6 and nut 7. The extension 4 is folded or bent back upon itself to provide a reentrant portion 8 which is positioned within the encircling portion 2 and is formed at its end into a socket 9 which is adapted to receive an electrical conductor such as wire 10, which also lies within the encircling portion 2.

The wire 10 is preferably soldered in socket 9 but not necessarily so. It will be seen from Fig. 1 that by tightening up the bolt 6 and nut 7 the exterior extensions 4 and 5 are drawn together, thereby decreasing the internal diameter of the encircling portion 2, which firmly clamps the socket 9 between the encircling member 2 and the pipe 3, whereby the wire 10 is held in firm engagement within the socket 9, which in turn is held against the pipe 3.

By means of this arrangement, the electrical connection between the wire 10 and pipe 3 may be entirely independent of the soldered connection which is usually required in structures of this type. When solder is depended upon for the electrical connection the soldered joint often fails due to corrosion or vibration of the parts; but this invention provides a means for holding the wire and metallic body in positive electrical connection even after the solder joint fails, or where no solder is used. After the clamp has been tightened in place by means of the bolt 6 and nut 7, encircling member 2 is under considerable tension which acts to firmly hold the wire in such a manner that a suitable electrical connection between the wire 10 and pipe 3 will result. It will be seen that encircling portion 2 of the clamp is continuous between the ends 4 and 5 and passes over socket 9 into which the wire 10 is inserted. This furnishes a relatively long portion of strip metal which is placed under considerable tension by tightening up the bolt 6 and nut 7. This tension continuously exerts a clamping force tending to squeeze the socket 9 into tighter contact with the wire 10. In addition to this the socket 9 and wire 10 forms a fulcrum point about which the encircling member 2 passes, so that when the adjusting means is tightened up that portion of the encircling member on the side of the pipe opposite to the wire 10 is pulled into continuous contact with the pipe 3.

The metallic strip 1 is of such length that it is adapted for use on pipes or other metallic bodies of varying sizes. Holes 11, Fig. 2, are provided at intervals along the strip, so that when the strip is placed around a member, such as the pipe 3, one of the holes 11 will come into proper position so that the bolt 6 may be passed therethrough. Indentations 12 extend transversely of the strip and are positioned adjacent the holes 11 so that one of these indentations lies adjacent the top of the nut 5 for any size of pipe 3. These indentations provide weakened portions which permit that part of the strip which extends beyond the nut 7 to be broken off with ease.

While I have described my invention in detail and with respect to preferred embodiments thereof, I do not desire to be limited to such details and embodiments since many

changes and modifications may be made and the improvements embodied in widely different forms without departing from the spirit and scope thereof in their broader aspects. Hence I desire to cover all modifications and forms coming within the language or scope of any one or more of the appended claims.

What I claim as new and desire to secure by Letters Patent, is:

1. A ground clamp comprising a body portion adapted to encircle a metallic member, a socket connected to said body portion adapted to lie between said body portion and the encircled member and adapted to receive an electrical conductor, and means to vary the internal diameter of said body portion to clamp said socket and electrical conductor carried therein between the encircled member and said encircling portion.

2. A ground clamp comprising a portion adapted to encircle a metallic member and having extended portions adapted to be engaged by adjusting means, a reentrant portion integral with and lying within said encircling portion, and a wire receiving socket formed at the end of said reentrant portion. and adjusting means for drawing the extended portions together to clamp said socket between the encircling portion and the metallic body whereby the wire in said socket is held in positive electrical connection with said metallic member.

3. A ground clamp for electrically connecting a wire to a metallic body comprising an encircling portion with extended exterior portions, one of said extended portions being bent back upon itself and providing a reentrant portion with its extremity formed into a wire receiving socket lying within the encircling portion, and adjusting means for varying the inside diameter of said encircling portion to thereby clamp said socket firmly between said encircling portion and the metallic body.

In testimony whereof I have signed my name to this specification.

ADOLF E. FEIGE.