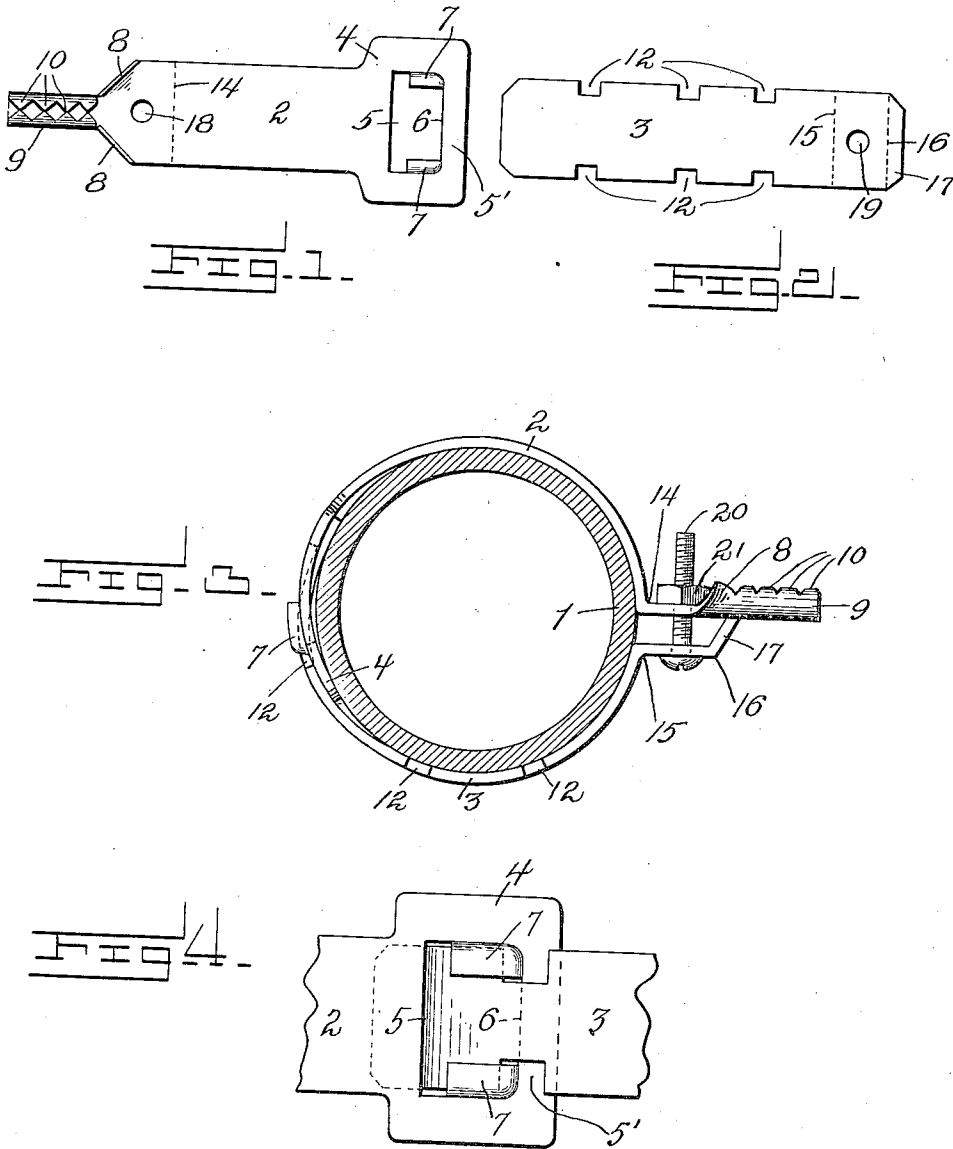


R. R. FORBES.
ELECTRIC GROUND CLAMP.
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1,084,936.

Patented Jan. 20, 1914.



Witnesses
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UNITED STATES PATENT OFFICE.

ROBERT R. FORBES, OF MOUNT HOLLY, NEW JERSEY.

ELECTRIC GROUND-CLAMP.

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Specification of Letters Patent.

Patented Jan. 20, 1914.

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To all whom it may concern:

Be it known that I, ROBERT R. FORBES, a citizen of the United States, residing at Mount Holly, in the county of Burlington and State of New Jersey, have invented certain new and useful Improvements in Electric Ground-Clamps, of which the following is a specification.

The object of this invention is to provide
10 an electric ground clamp which will be adjustable to fit pipes of several sizes; and one which will make a perfect contact with practically the entire surface of the part of the pipe embraced by the clamp; and a further
15 object is to provide the surface of the wire connecting portion with a coating of tin or solder to facilitate soldering of the conductor wire thereto.

Reference will be had to the accompanying drawing forming a part of the specification and wherein like numerals of reference designate corresponding parts throughout the several views, in which:

Figure 1 is a view in elevation showing
25 one section of the clamp partly flattened, Fig. 2 is a similar view of the other section entirely flattened, Fig. 3 is an enlarged top plan view showing the invention applied to a section of service pipe, the latter being
30 in section, and Fig. 4 is an enlarged view in elevation illustrating the mode of connecting the two clamp sections.

Reference numeral 1 designates the service pipe to which the ground clamp is connected.
35 The clamp consists of two sections 2 and 3, stamped preferably from sheet copper. The section 2 comprises a head or enlarged portion 4 considerably wider than the strap portion thereof, and this head is
40 provided with an opening 5 capable of receiving one end of the other section 3, said opening providing a bar 5' at the end of the said section 3. At opposite corners adjacent the same edge 6 of the opening, over-
45 hanging lugs 7 are provided. These lugs are pressed outwardly the thickness of the metal and provide shoulders which are substantially in alinement with the said edge 6 of the opening 5. At its other end, the
50 clamp section 2 has its upper and lower edges folded over to form outstanding ears 8 and barrel portion 9, which latter receives the terminal of a conductor wire. The adjacent edges of the barrel or tubular portion 9 are serrated to form teeth 10 which
55 are pressed into firm engagement with the

conductor wire. To facilitate a more permanent connection, the said barrel or tubular portion 10 is coated with tin or solder whereby the conductor wire and said portion 10 may be quickly soldered together.

The clamp section 3 is of substantially the same width throughout and its upper and lower edges are provided with oppositely disposed notches 12, which, it will be
65 observed, are graduated.

When in their completed form, the clamp section 2 is bent at 14, and the section 3 is bent at 15, and also at 16, the latter being for the purpose of producing a supporting
70 flange or shoulder 17. Centrally of the point of bend 14 and the outstanding ears 8 of the section 2, is provided a bolt aperture 18; and centrally of the points of bend 15 and 16, the section 3 also has bolt aperture 19;
75 and through these apertures 18 and 19 is passed a bolt 20 having a nut 21.

In application, the end of the clamp section 3 is inserted in the opening 5 and beneath the body of the section 2 until one
80 opposite pair of notches 12 passes the ears 7, when the section 3 is drawn toward the bar 5' so as to cause the said ears to pass through the said pair of notches 12. When the walls of the notches 12 contact with the
85 said shoulders of the ears 7, the section 3 is drawn into alinement with the section 2 in which position the two sections will be firmly interlocked and the reduced portion of the section 3 intermediate the engaged
90 pair of notches 12 will be engaged with the exterior face of the bar 5'. If the pipe to be embraced is large the first opposite pair of notches 12 are employed and for smaller
95 sizes of pipes the other notches 12 are employed. Assuming the pipes with which the clamp is to be used are of the half, one, and two inch sizes, as are commonly placed in
100 houses; the first opposite pair of notches serve for the two-inch size, the second for the inch size, and the last for the half inch size of pipe, the graduation of the notches according with the differences in diameter of these pipes.

The sections 2 and 3 being interlocked for
105 application to the size of pipe desired, the same are wrapped around the pipe to bring their clamping ends together, and the bolt 20, or other means is then passed through the alined openings 18 and 19 and the nut
110 21 applied. While the bolt is being tightened, the ears 8 hold the nut from rotation,

and before the ends of the sections are drawn together, the supporting flange or shoulder 17 engages the barrel portion 9 to hold the clamping ends of the sections 2 and 3 apart and to thereby compel the final drawing action of the bolt 20 to act only on the body or pipe embracing portions of the sections 2 and 3.

It will be observed that the clamp may be readily removed and used elsewhere with the same or another size of pipe.

Having fully described the invention what is claimed as new and useful and is desired to be secured by Letters Patent is:—

15 A ground clamp adapted to be applied to a conductor comprising sections, one of

which is provided with an opening having at the opposite sides thereof lugs which are disposed out of the plane of the said section, the other section being adapted to pass 20 through the said opening and having series of notches in its opposite side edges adapted to receive the said lugs, said notches being irregularly spaced apart, and a traction means for drawing the sections together. 25

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT R. FORBES.

Witnesses:

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