

No. 759,414.

PATENTED MAY 10, 1904.

W. J. BISHOP.
GROUND WIRE ATTACHMENT.

APPLICATION FILED SEPT. 4, 1902.

NO MODEL.

Fig. 1.

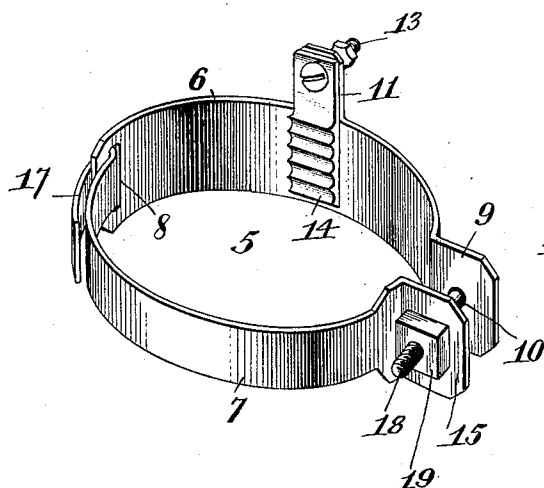


Fig. 2.

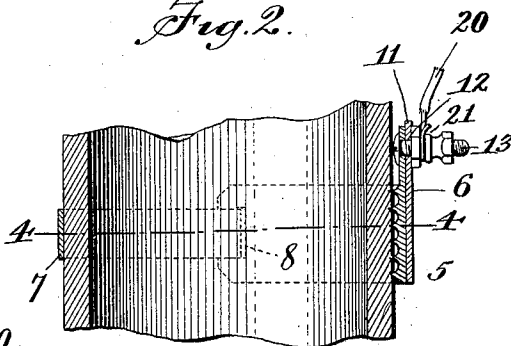


Fig. 3.

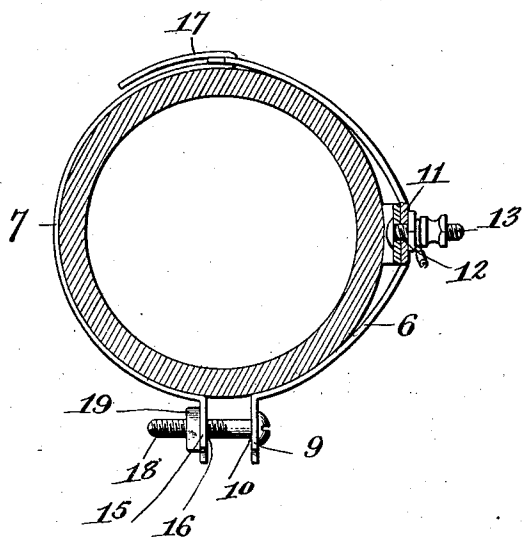
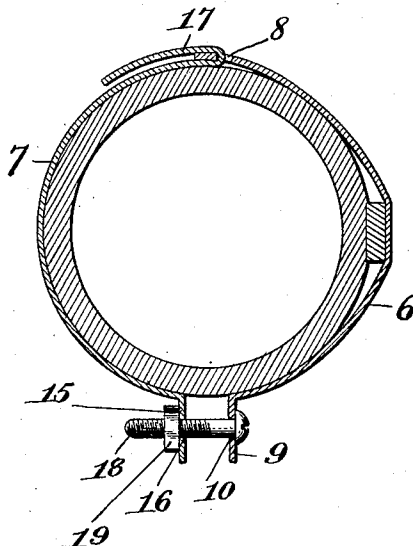


Fig. 4.



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UNITED STATES PATENT OFFICE.

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GROUND-WIRE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 759,414, dated May 10, 1904.

Application filed September 4, 1902. Serial No. 122,107. (No model.)

To all whom it may concern:

Be it known that I, WILBERT J. BISHOP, a resident of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Ground-Wire Attachments, of which the following is a specification.

As is well known, the earth is an important factor in all kinds of electric circuits, it acting as a return-conductor and as a discharge-conductor for lightning-arresters, &c. In either case it is a very common practice, as well as a convenient one, to attach the wire leading from the circuit or lightning-arrester to a gas or water pipe, as these pipes provide a very large conductor-surface which is exposed to the earth.

The object of my invention is to provide a connecting attachment whereby the ground-wire can be quickly and conveniently secured to a gas or water pipe without any previous preparation of the latter—that is, without scraping or removing the rust from the pipe or polishing the same.

Another object is to so construct the connecting attachment to maintain a perfect electrical connection regardless of the moisture or atmosphere that the same may be exposed to.

Further objects are the production of a connecting attachment which can be readily adjusted to permit of its attachment to pipes of different diameters and which when secured in place on the latter will be reliable as an electrical connection of low resistance and which can be readily detached, if desired.

With the above objects in view the invention consists in certain novel details of construction and combination and arrangement of parts, as will be hereinafter described, and pointed out in the appended claims.

Referring to the drawings, Figure 1 is a perspective view of the connecting attachment, showing its several parts assembled as it appears when secured to a pipe. Fig. 2 is a central vertical section of the same, showing the attachment secured to a pipe. Fig. 3 is a plan view of the same, the pipe to which it is attached being shown in section. Fig. 4 is a transverse section of the same, taken on line 4-4, Fig. 2.

The numeral 5 designates the connecting attachment, which is composed of two sections 6 and 7, preferably constructed of flexible sheet metal, so that they will conform substantially to the contour of the pipe to which the connection is attached. The section 6 is provided with a slot 8 at one end thereof and its opposite end bent to form an outstanding ear 9, which is provided with an aperture 10, and projecting from the edge of said section midway between its ends and formed integrally therewith is an ear 11, which is provided with an aperture 12, adapted to receive a clamping-bolt 13. This bolt acts as the securing means for the serrated contact-plate 14 and also forms one of the members of the binding-post.

The serrated contact-plate has its teeth arranged lengthwise of the section to which it is attached, thus providing a series of contact-points arranged in succession lengthwise of the pipe to which the attachment is secured. This arrangement assures an effective contact to the pipe irrespective of what the size of the latter may be.

The section 7 is bent to form an outstanding ear 15, which is provided with an aperture 16, the purpose of which will be hereinafter described. The opposite end of the section is somewhat reduced in width, so as to permit the same to be passed through the slot 8 in the section 6, and bent upon itself to form a hook 17, which affords a rough adjustment of the connecting attachment relative to the pipe and forms a hinge-joint at that point.

Passing through the aperture 10 and 16 in the outstanding ears 9 and 15 is a clamping-bolt 18, having a nut 19, in which the said bolt is turned to draw the free ends of the two sections together, thereby causing the same to closely embrace the pipe to which it is secured and force the teeth or serrations on the contact-plate 14 firmly against the pipe; but to provide a perfect electrical connection the efficiency of which will not be easily affected by corrosion of the pipe or contact-plate the teeth on the latter are embedded in the pipe by striking the section 6 directly in rear of the contact-plate with a hammer or other instrument. After the teeth have been firmly embedded in the pipe in this manner the

clamping-bolt 18 is again turned to take up the slackness caused by the embedment of the teeth in the pipe. The attachment is then ready to receive the ground-wire 20, which is
5 secured to a binding-post 21 in any well-known manner.

Having thus described my invention, what I claim is—

1. An attachment for connecting an electric
10 conductor to a metal pipe, consisting of two flexible coöperating sections connected to permit of their attachment to any size pipe, and a serrated contact-plate secured to one of said
15 coöperating sections, said contact-plate having its teeth arranged to form a series of contact-points lengthwise of the pipe and thus form an effective connection irrespective of the size of the pipe.

2. An attachment for connecting an electric
20 conductor to a metal pipe, consisting of two sections constructed of sheet metal, one of said sections being provided with an outstanding ear at one end and a slot at or near its opposite end, and the other section being also provided with an outstanding ear at one end and
25 having its other end passed through said slot in the first-mentioned section and bent upon

itself whereby connection may be made to any size pipe, and means for drawing the free ends
of said sections together. 30

3. An attachment for connecting an electric conductor to a metal pipe, consisting of two sections constructed of metal, one of said sections being provided with an outstanding ear at one end and a slot at or near its opposite
35 end and having also an ear extending from the edge thereof between its ends, and the other section being provided with an outstanding ear at one end and having its opposite end bent upon itself and passed through said slot
40 in the first-mentioned section, a serrated contact-plate secured to the ear extending from the edge of the first-mentioned section between its ends, and a clamping-bolt passing through
45 said outstanding ears at the ends of the sections.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILBERT J. BISHOP

Witnesses:

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