H. W. PLEISTER.

GROUND CLAMP.

APPLICATION FILED MAY 11, 1911.

1,179,455.

Patented Apr. 18, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

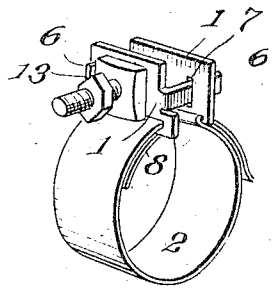


Fig. 2.

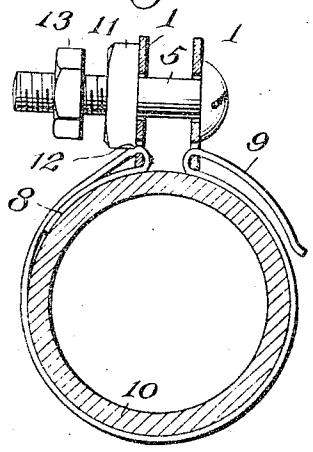


Fig. 3.

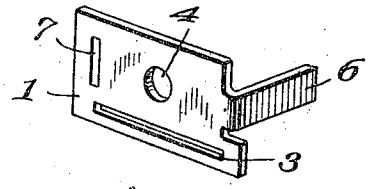


Fig. 4.

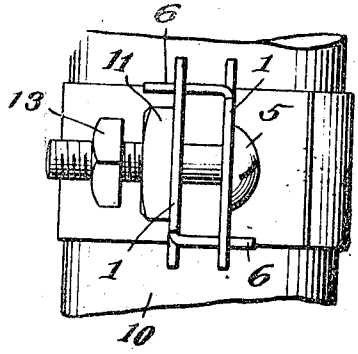
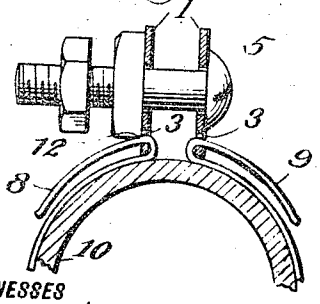


Fig. 5.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 6.

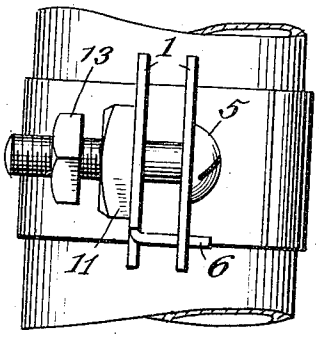


Fig. 7.

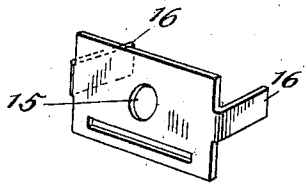


Fig. 8.

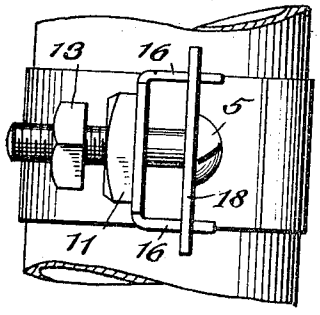
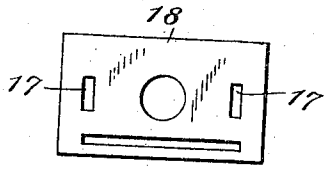


Fig. 9.



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HENRY W PLEISTER, OF WESTFIELD, NEW JERSEY, ASSIGNOR TO HENRY B. NEWHALL.

GROUND-CLAMP.

1,179,455. Specification of Letters Patent. Patented Apr. 18, 1916.

Application filed May 11, 1911. Serial No. 626,549.

To all whom it may concern:

Be it known that I, HENRY W. PLEISTER, a citizen of the United States, and a resident of Westfield, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Ground-Clamps, of which the following is a specification, taken in connection with the accompanying drawings, which form a part of the same.

This invention relates to ground clamps which are used to assist in grounding a low potential circuit such for example as a telephone circuit.

In the accompanying drawings I have shown illustrative embodiments of my invention in which the same reference numerals refer to similar parts in the several figures.

Figure 1 is a perspective view of my ground clamp showing one flap of the strap turned in and the other turned out; Fig. 2 is a vertical section through the end plates and a pipe through which the current is to be grounded; Fig. 3 is a perspective view of one of the end plates; Fig. 4 is a plan view; Fig. 5 is a vertical section through the end plates and the pipe showing both flaps of the strap turned out; Fig. 6 is a plan view of a modification; Fig. 7 is a perspective view of another modification; Fig. 8 is a plan view of the same modification; and Fig. 9 is a plan view of one of the modified end plates.

In grounding circuits of low potential, such for example as telephone circuits, it is customary to save expense to ground the circuit through the water or sewer pipe in a house or other edifice in which the telephone is located. This is quite frequently done by soldering one end of the telephone wire to the pipe which takes a great deal of time. By using my ground clamp this soldering is avoided and in addition thereto the ground clamp can be readily and expeditiously attached to pipes, or other metallic members running into the ground, of various sizes and contours.

My ground clamp consists essentially of two end plates 1, 1 and a connecting flexible member 2 which is preferably formed as a strap of flexible metal. I use any suitable clamping means to hold the end plates 1, 1 together or adjacent to each other. Simply by way of example, but to which my invention is not to be limited, I have shown in the drawing a screw 5 and nut 11 as such clamping means, which means are preferably adjustable as shown, it of course being understood that my invention is defined by my claims. Each end plate is preferably provided with a strap slot 3, an aperture 4 for a screw or other binding member 5, and with an arm 6 which is bent at an angle to the plate 1. These end plates 1 are preferably stamped out of sheet metal, the different slots and the arm 6 being formed at one punching. At the same time I preferably form in each end plate an arm slot 7 to receive the complementary arm 6 on the other end plate 1. It is to be understood, however, that in some cases I may simply form an arm 6 on one end plate and an arm slot on the other end plate to receive it, in which case my ground clamp would have only one arm 6 and one arm slot 7, on the other end plate, Fig. 6. Preferably, however, I make the end plates 1, 1 identical, providing each of them with an arm 6 and an arm slot 7. This avoids rights and lefts. A manufacturer, dealer, or user, having an even number of such end plates will be assured that they will form, with the straps and binding screws, just half the number of ground clamps without the liability of having an excess of rights over lefts, or vice versa. Moreover, by having the end plates identical they can be more readily assembled and they are cheaper to manufacture in that only one set of dies and machinery have to be employed.

Through each strap slot 3 one end of the free strap 2 is passed, both flaps 8 and 9 being either left free, Fig. 5, or one of them, as the flap 8, may be tucked in against the pipe 10 or other support, Figs. 1 and 2.

By my invention it will be seen that the ground clamp is given a quick preliminary adjustment on the support 10 by means of the flap 9, (and the flap 8 if it is free), the final adjustment being by the screw 5 and its clamping nut 11. This is of marked advantage as the diameters and contours of the different supports 10 vary to such an extent that to save labor and time in attaching the ground clamps, it is desirable to obtain a quick preliminary adjustment.

The coöperating arms 6 and arm slots 7 serve to strengthen the entire ground clamp and to hold the end plates parallel, permit-

ting the screw 5 to be quickly thrust through the registering openings 4 in each plate 1.

The clamping nuts 11 are so arranged with relation to the strap slots 3 that they will slightly overlap the slots and serve to bite into the strap 2, as at 12, Figs. 2 and 5, which will tend to prevent the strap from being pulled through the strap slot 3 which they overlap.

The end of the wire (not shown) which is to be grounded, is preferably held to the ground clamp by means of the binding nut 13 which coöperates with the threads on the screw 5 so that the end of the wire is clamped between the clamping nut 11 and the binding nut 13.

In some cases I may locate both arms upon one side plate and both arm slots on the other side plate. I have illustrated such a construction in Figs. 7, 8 and 9. In this modification the end plate 15 is preferably stamped out of sheet metal and is provided with two arm 16, 16 which coöperate with the arm slots 17, 17 in the complementary end plate 18.

Having thus described this invention in connection with several illustrative embodiments thereof to the details of which I do not desire to be limited, what is claimed as new and what it is desired to secure by Letters Patent is set forth in the appended claims:

1. An article of manufacture for a ground clamp comprising an end plate provided with an offset arm mounted on one side of the plate, said plate being also provided with an arm slot and a separate strap slot.

2. An article of manufacture for a ground clamp comprising an angular end plate provided with an angular offset arm mounted on one side of the angular plate, and provided with an arm slot and a separate strap slot.

3. An article of manufacture for a ground clamp comprising a substantially flat end plate provided with an arm at an angle to the plate, an arm slot and a strap slot.

4. An article of manufacture for a ground clamp comprising a substantially flat end plate provided near one end with an arm arranged at an angle to the plate, said plate near the other end being provided with an arm slot and a strap slot.

5. An article of manufacture for a ground clamp comprising a substantially flat end plate provided near one end with an arm arranged at an angle to the plate, said plate near the other end being provided with an arm slot and with an intermediate slot.

6. An article of manufacture for a ground clamp comprising a substantially thin flat metallic plate provided with an integral arm arranged at an angle to the plate, said plate being also provided with an arm slot and a strap slot.

7. An article of manufacture for a ground clamp comprising two complementary end plates each provided near one end with an arm arranged at an angle to the plate and near the other end with an arm slot, and each plate being provided with a strap slot.

8. In a ground clamp, the combination of two substantially flat identical sheet metal end plates, each of which is provided near one end with an integral arm bent at substantially right angles, and at the other end with a slot to receive the bent arm of the other plate, flexible adjusting means connecting the two substantially flat sheet metal plates and having at least one end free and adapted to give them a preliminary adjustment, and separate means to give the final adjustment to the two substantially flat sheet metal plates.

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