Jan. 5, 1932. H. B. LEE 1,839,883

GROUNDING FITTING FOR ELECTRICAL SYSTEMS

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Fig. 1.

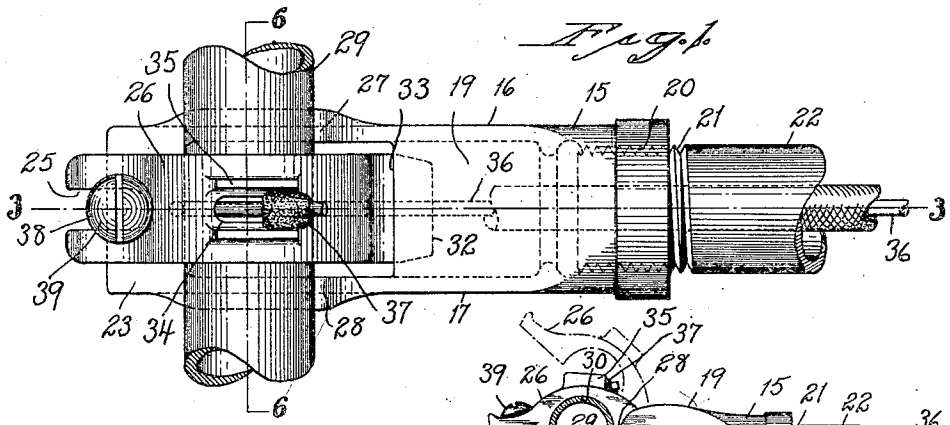


Fig. 2.

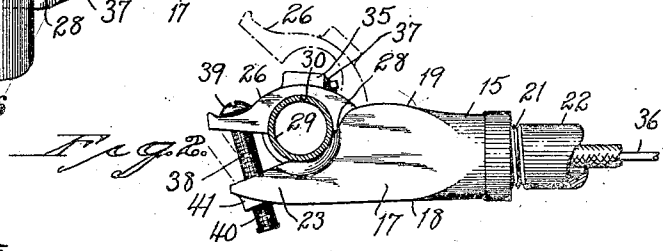


Fig. 3.

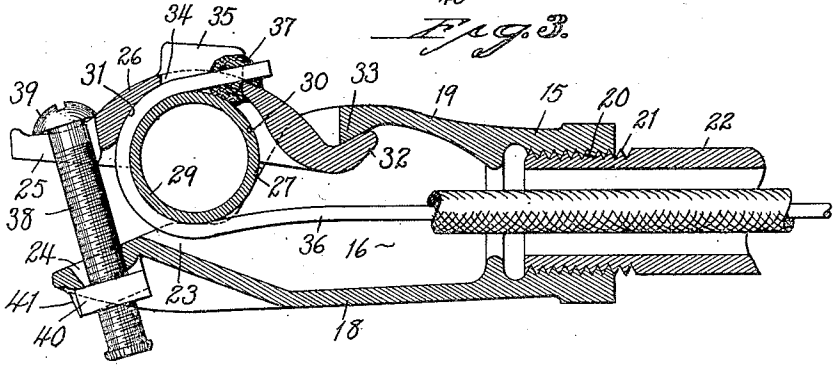
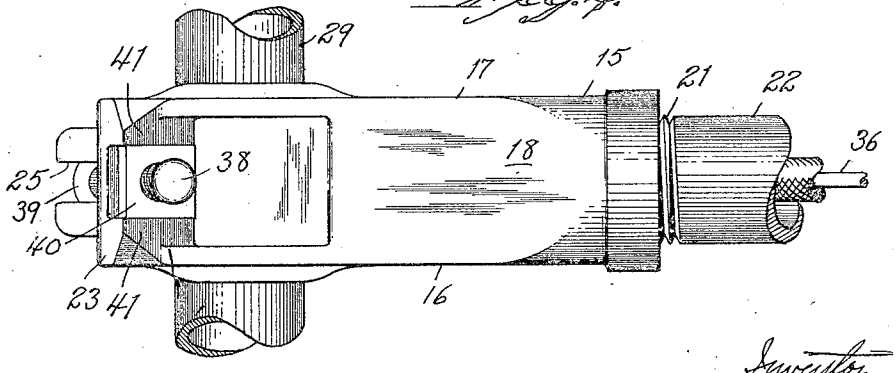


Fig. 4.



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Fig. 10.

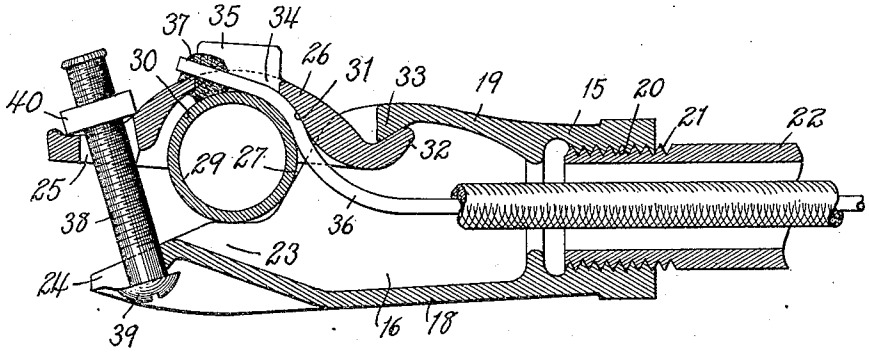


Fig. 5.

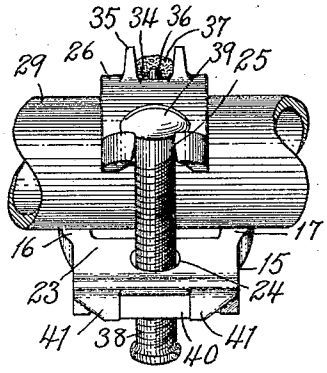


Fig. 6.

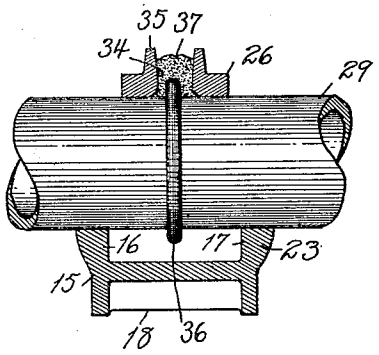


Fig. 7.

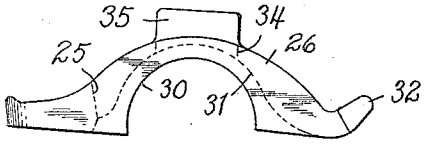


Fig. 9.

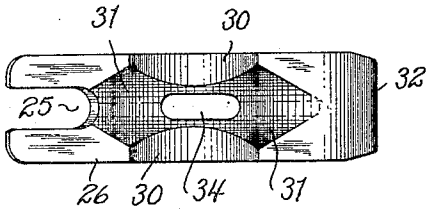
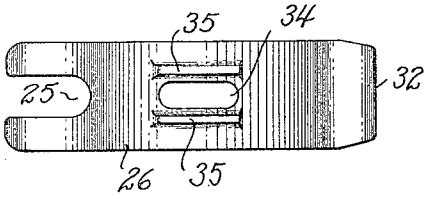


Fig. 8.



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Patented Jan. 5, 1932

1,839,883

UNITED STATES PATENT OFFICE

HENRY B. LEE, OF NEW LONDON, CONNECTICUT, ASSIGNOR TO THE GILLETTE-VIBBER COMPANY, OF NEW LONDON, CONNECTICUT, A CORPORATION

GROUNDING FITTING FOR ELECTRICAL SYSTEMS

Application filed January 17, 1930. Serial No. 421,402.

This invention relates to improvements in grounding-fittings for electrical systems and particularly to grounding-fittings designed to provide a support for a conduit.

The main object of my invention is to provide a simple, strong and effective grounding-fitting of the class described, constructed with particular reference to providing an effective electrical bond to a waterpipe or other grounding medium.

With the above and other objects in view as will appear from the following, my invention consists in a grounding-fitting for electrical systems having certain details of construction and combinations of parts as will be hereinafter described and particularly recited in the claims.

In the accompanying drawings:

Fig. 1 is a top or plan view of a grounding-fitting embodying my invention and shown as having one end clamped upon a water-pipe and its opposite end receiving a conduit;

Fig. 2 is a view thereof in side elevation on a reduced scale;

Fig. 3 is a view thereof in longitudinal section taken on the line 3—3 of Fig. 1;

Fig. 4 is an underside view thereof;

Fig. 5 is a view in elevation looking toward the clamping-end thereof;

Fig. 6 is a transverse sectional view taken on the line 6—6 of Fig. 1;

Fig. 7 is a detached view in side elevation of the pivotal clamping-member;

Fig. 8 is a top or plan view thereof;

Fig. 9 is an underside view thereof; and

Fig. 10 is a longitudinal sectional view corresponding to Fig. 3 but showing another form of grounding-fitting embodying my invention.

In carrying out my invention as shown in Figs. 1 to 9 inclusive, I employ a tubular body-member 15, substantially rectangular in cross-section throughout the major portion of its length and consisting of complementary side-walls 16 and 17, a bottom-wall 18 and a relatively short top-wall 19. The rear end of the body-member is internally threaded as at 20 to provide an axial socket for the reception of the externally-threaded end 21 of a conduit 22.

The bottom-wall 18 of the body-member 15 is extended beyond the forward end of the top-wall 19, as clearly shown in Fig. 3 of the drawings, to form what I shall for convenience of description describe as a pipe-engaging-lip 23, which is formed with a bolt-passage 24 arranged substantially in line with a bolt-passage 25 formed in the outer end of a clamping-member 26. The bolt-passage 25 just referred to is, as shown, notch-like in form and opens through the forward end of the side clamping-member 26 for the purpose as will hereinafter appear.

The respective side-walls 16 and 17 of the body-member 15 are notched, as shown, to form seats 27 and 28 for the reception of a water-pipe 29 or other equivalent grounding medium, which is retained upon the said seats by the clamping-member 26 already referred to.

The said clamping-member 26 is formed in its under-face with a semi-circular transverse groove 30 which is centrally intersected by a longitudinal wire-receiving groove 31. The rear end of the clamping-member 26 is formed with a rearwardly-projecting, slightly-upturned toe 32 which, as shown in Fig. 3, is hooked under the forward end 33 of the top-wall 19 and which is strengthened by thickening the same at this point as clearly shown in the drawings.

Extending between the upper surface of the clamping-member 26 and the wire-receiving groove 31 therein is a passage 34 flanked upon its respective opposite sides by a pair of upstanding plate-like lugs 35.

Extending through the conduit 22 and into the hollow interior of the body-member 15 is the usual grounding wire 36, the end portion of which is partially wrapped around the pipe 29 with its extreme end projecting tangentially outward through the passage 34, between the upstanding lugs 35 flanking the same. Preferably and in order to assure an effective electrical connection between the said grounding-wire 36 and the grounding-fitting on one hand and the pipe 29 on the other, I apply solder 37 to the exposed end of the said wire where the same is positioned between the upstanding lugs 35.

Extending through the bolt-passage 25 of the clamping-member 26 and the bolt-passage 24 in the pipe-engaging-lip 23 of the body-member is a clamping-bolt 38 having its head 39 engaged with the upper surface of the clamping-member 26 and provided at its opposite end with a nut 40 positioned between a pair of complementary positioning ribs 41, flanking the said passage 24 and serving to hold the said nut against rotation.

In the use of my improved grounding-fitting, the head end of the clamping-bolt 38 is swung laterally out of the notch-like bolt-passage 25 in the clamping-member 26, so as to permit the latter to be swung upward into a clearance position, as shown by broken lines in Fig. 2, or removed entirely if so desired, by disengaging its toe 32 from the under-face of the forward end 33 of the top-wall 19. The body-member 15 is now positioned upon the pipe 29 so that the same is engaged by the seats 27 and 28, after which the end of the grounding-wire 36 is partially wrapped around the said pipe so as to leave its extreme end projecting upward. The clamping-member 26 is now swung downward into engagement with the upper surface of the pipe 29 in such manner as to permit the end of the grounding-wire 36 to extend outward through its passage 34. The clamping-bolt 38 is now swung laterally to reenter its head end into the notch-like bolt-passage 25 in the said clamping-member, after which the said bolt is tightened by means of a screw driver or other suitable tool until the pipe is firmly clamped between the seats 27 and 28 on one hand and the surface of the semi-circular transverse groove 30 in the under-face of the clamping-member, on the other. If desired, the end of the grounding-wire 36 projecting through the opening 34 in the clamping-member may now be soldered in place as already described.

In the form of my invention shown in Fig. 10, instead of making the bolt-passage 25 in the clamping-member 26 notch-like in form, the same is of cylindrical form and the bolt-passage 24 in the pipe-engaging-lip 23 of the body-member is made notch-like in form to permit the bolt to be swung laterally to disengage it from the said lip and permit the clamping-member to be pivoted into a retired position or to be removed entirely from the body-member by unhooking its toe 32 from beneath the forward end 33 of the top-wall 19. In this figure also, I have shown the end of the grounding-wire 36 passing directly outward through the passage 34, rather than being wrapped about the pipe as shown in the preceding figures.

From the foregoing, it will be seen that by pivotally connecting the clamping-member to the body-member, I provide a grounding device which may be readily and conveniently attached and which secures an effective ground connection with a waterpipe or other grounding medium. It will be noted that the clamping-bolt or equivalent device not only serves to secure the fitting to the waterpipe, but also serves to electrically connect the clamp-member 26 with the body-member by urging the toe 32 more firmly into engagement with the under-face of the upper wall 19. By making one or the other of the bolt-passages 24 and 25 notch-like in form, I provide for the ready release of the clamping-member by swinging the said bolt laterally.

I claim:

1. A grounding-fitting comprising a body-member formed at one end with a conduit-receiving socket and provided at its opposite end with a pipe-engaging-lip formed with a bolt-passage and having a wall opposite the said lip, but shorter than the same; a separately-formed clamping-member positioned over the said lip and provided at one end with a toe pivotally engaged with the said wall of the said body-member and having its opposite end formed with a bolt-passage arranged substantially in line with the similar passage in the said pipe-engaging-lip; and a clamping-bolt passing through the respective passages of the said lip and clamping-member to clamp the fitting upon a grounding medium.

2. A grounding-fitting comprising a body-member formed at one end with a conduit-receiving socket and provided at its opposite end with a pipe-engaging-lip formed with a bolt-passage; a separately-formed clamping-member positioned over the said lip and having one end pivoted to the said body-member and its opposite end formed with a bolt-passage arranged substantially in line with the similar passage in the said pipe-engaging-lip; a transverse pipe-receiving groove formed in the said clamping-member; a radial wire passage intersecting the said pipe-receiving groove; and a clamping-bolt passing through the respective bolt-receiving passages of the said lip and clamping-member to clamp the fitting upon a grounding medium.

3. A grounding-fitting as defined in claim 2 and having a pair of soldering lugs flanking the radial wire passage of the said clamping-member.

4. A grounding-fitting as defined in claim 2 and having a wire-receiving groove extending longitudinally upon the inner face of the clamping-member and intersecting the radial wire-passage referred to.

5. A grounding-fitting comprising a body-member formed at one end with a conduit-receiving socket and provided at its opposite end with a pipe-engaging-lip formed with a bolt-passage; a clamping-member positioned over the said lip and having one end pivoted to the said body-member and its opposite end formed with a bolt-passage arranged substantially in line with the similar passage

in the said pipe-engaging-lip; a clamping-bolt passing through the respective passages of the said lip and clamping-member to clamp the fitting upon a grounding medium; one of the said bolt-passages being in the form of a notch outwardly opening through the wall of the member in which it is formed; whereby the clamping-bolt may be disengaged therefrom by a lateral swinging movement.

In testimony whereof, I have signed this specification.

HENRY B. LEE.