March 20, 1928.

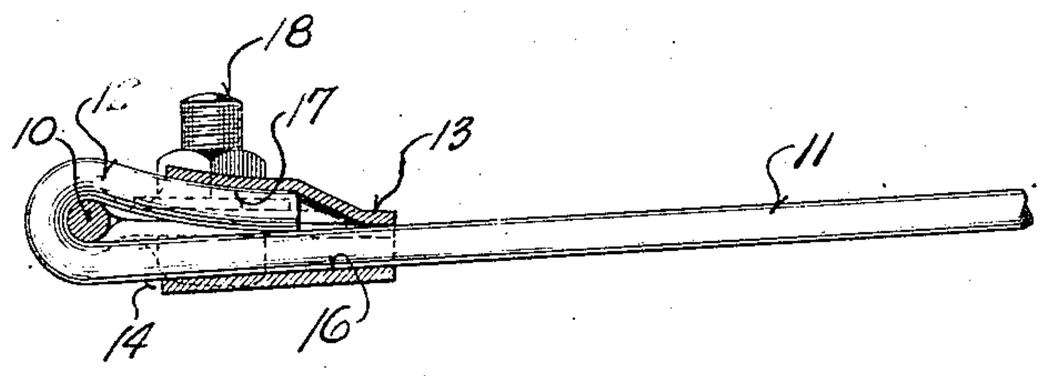
1,663,005

L. E. HENDEE

SOLDERLESS CONNECTER

Filed June 16, 1924

Fig. 2.



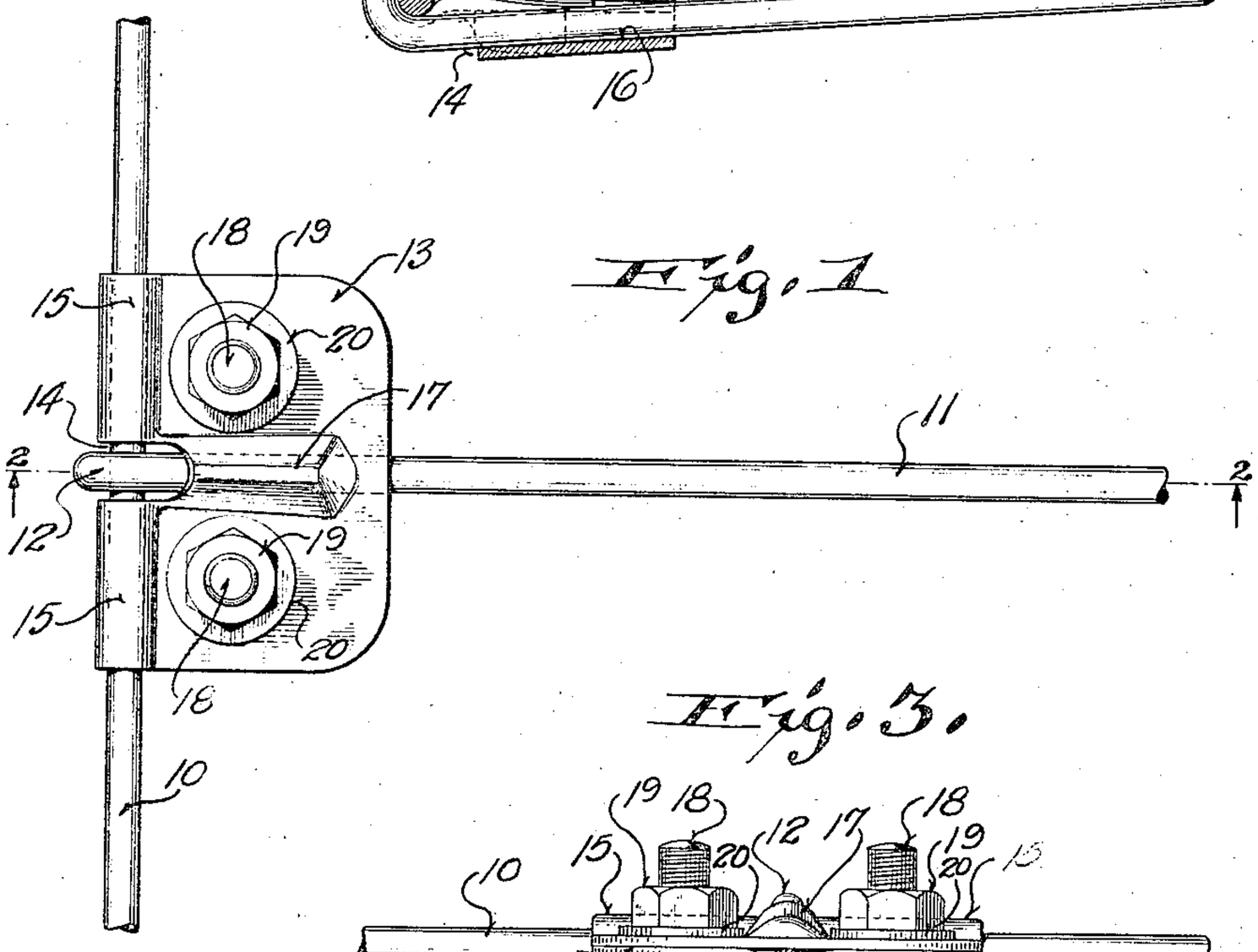


Fig. 1

Fig. 3.

Fig. 5.

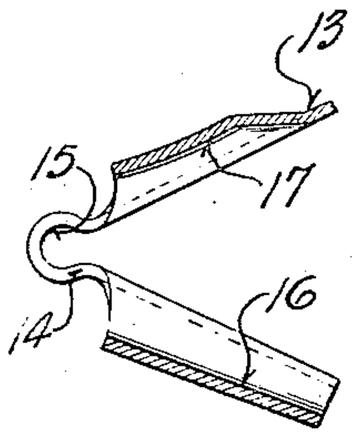
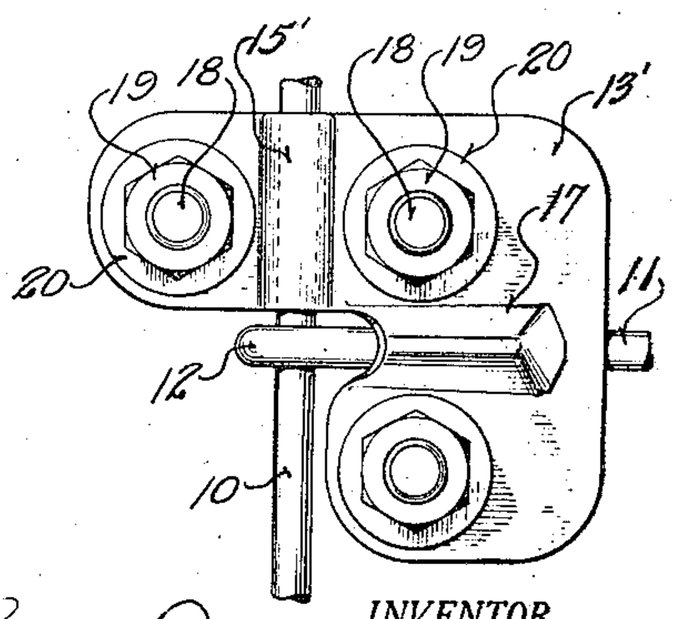


Fig. 4.



WITNESSES

George Mueller

T. E. Downing

INVENTOR.

Lem E. Hendee,

By W. S. Caldwell

ATTORNEY.

Patented Mar. 20, 1928. 1,663,005

UNITED STATES PATENT OFFICE.

LEM E. HENDEE, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO LINE MATERIAL COMPANY, OF SOUTH MILWAUKEE, WISCONSIN, A CORPORATION OF WISCONSIN.

SOLDERLESS CONNECTER.

Application filed June 16, 1924. Serial No. 720,356.

The invention relates to connecters for laterally joining conductor wires without the necessity for soldering to produce a joint of good electrical conductivity.

In establishing a lateral or branch connection from a line conductor wire it has been the practice to solder the branch conductor wire thereto in order to produce a good joint. However, when hard-drawn copper is used for the conductor any attempt to solder the joint will anneal the wire and cause a considerable reduction in tensile strength.

An object of the present invention is to provide a solderless connecter for this type of joint which possesses the requisite mechanical strength and produces a joint of good conductivity.

Another object of the invention is to provide a solderless connecter of this character, which is easily applied and is of inexpensive construction.

The invention further consists in the several features hereinafter set forth and more particularly defined by claims at the conclusion hereof.

In the drawings: Fig. 1 is a plan view of a connecter embodying the invention, as applied to conductor wires;

Fig. 2 is a sectional view taken through the line 2—2 of Fig. 1;

Fig. 3 is an end view of the connecter in place on conductor wires;

Fig. 4 is a sectional detail view of the connecter before being applied to the conductor wires; and

Fig. 5 is a plan view of a modified form of connecter embodying the invention.

In the drawings, 10 designates a line wire and 11 a branch wire extending laterally therefrom at substantially right angles and provided with a hooked end 12 which engages the line wire, as best seen in Fig. 2.

A clamping member 13 is formed of sheet metal preferably copper, folded upon itself to form complementary halves and provided with a central aperture 14 to afford clearance for the hooked end 12 of the branch wire. At the folded edge, the metal is curved to form aligned pockets 15 receiving the line wire and separated by the central aperture 14 which forms a notch in the folded edge of the clamping member. To receive the end of the branch wire the clamping member is provided in its folded halves with registering pockets or grooves 16 and 17 extending from the aperture 14 at substantially right angles to the pockets 15. The pocket 16 extends to the edge of the clamping member to receive the branch conductor while the pocket 17 may terminate short of the edge as shown, since it is only required to receive the reversely curved end of the conductor.

When establishing a branch connection the end of the branch conductor wire is hooked around the line conductor wire and the clamping member is spread apart as indicated in Figs. 4, to be moved laterally onto the line wire until it seats in the aligned pockets at the folded edge, the aperture 14 affording clearance for the hooked end of the branch wire.

The two folded halves of the clamping member are then brought together to bring the hooked end portions of the branch wire in the grooves or pockets 16 and 17, as best seen in Fig. 2, and a pair of bolts 18 are passed through openings on opposite sides of the pockets and provided with nuts 19 bearing on washers 20 to securely clamp the wires in the pockets of the clamping member. The heads of the bolts are preferably square and disposed adjacent the wire-receiving pockets, so that they will not turn when applying a wrench to the clamping nuts. Since the pocket 17 terminates short of the edge of the upper half of the clamping member, a clamping surface is afforded adjacent the edge to engage the upper side of the entering branch wire and clamp it tightly in the groove 16, as shown in Fig. 3, to establish a good contact.

In the modified construction shown in Fig. 5, the clamping member 13′ is formed of two separate but complementary halves disposed on either side of the wires with registering semi-cylindrical pockets 15′ for receiving the line wire, and with registering pockets for receiving the hooked end of the branch wire, as in the first described construction. The clamping bolts 18 pass through the clamping halves on either side of and close to both sets of wire-receiving pockets so that a good contact will be established between the wires and the clamping member.

The wide clamping surfaces afford a joint of good conductivity without the necessity for soldering, which would anneal the hard-drawn copper and materially reduce its ten-

sile strength, and the branch or laterally extending conductor wire is held securely in place by clamping its hooked end around the line wire.

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

1. In a connecter for electric wires, the combination of a sheet metal clamping member folded on itself to provide a wire-receiving groove along its folded edge and having an aperture forming an intermediate notch in said folded edge to receive the hooked end of a laterally extending wire adapted to engage about said line wire, said clamping member having registering grooves adapted to receive the end portion of said laterally extending wire, and threaded members passing through the folded halves of said clamping member on each side of said registering grooves and adjacent said first-named groove for clamping said wires in said grooves.

2. In a connecter for electric wires, the combination of a sheet metal clamping member folded on itself to provide a wire-receiving groove along its folded edge and having an aperture forming an intermediate notch in said folded edge to receive the hooked end of a laterally extending wire adapted to engage about said line wire, said clamping member having registering grooves in its folded halves adapted to receive the end portion of said laterally extending wire, both of said grooves extending from said notch and one of them terminating short of the opposite edge to receive the reversely curved end of said laterally extending wire, and threaded members passing through the folded halves of said clamping member on each side of said registering grooves and adjacent said first-named groove for clamping said wires in said grooves.

3. In a connecter for electric wires, the combination of a clamping member provided with a groove to receive a line wire and a second laterally extending groove to receive the end of a second wire adapted to pass about said line wire, and means for clamping said wires in the grooves of said clamping member with said second wire looped about said line wire.

4. In a connecter for electric wires, the combination of a clamping member forming complementary halves provided with a pair of registering grooves to receive a line wire and a second pair of laterally extending registering grooves to receive the end of a second wire adapted to hook about said line wire, and means for clamping said wires in the grooves of said clamping member.

In testimony whereof, I affix my signature.

LEM E. HENDEE.