

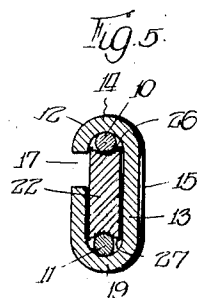
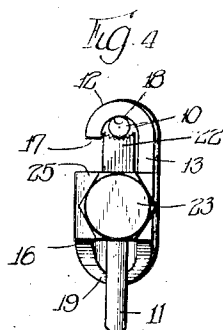
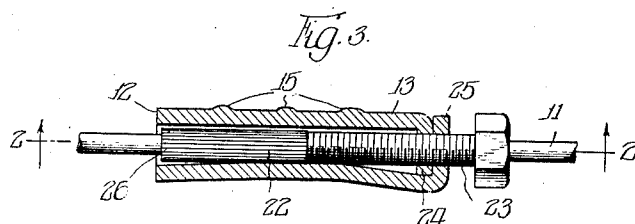
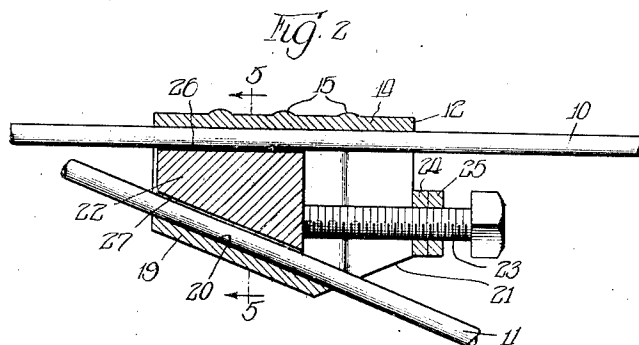
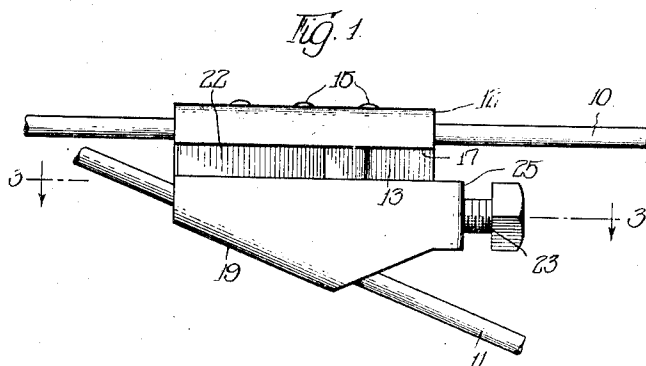
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W. G. KELLEY

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MEANS FOR CONNECTING ELECTRICAL CONDUCTORS

Filed May 22, 1926



Witness:

R. Burkhardt.

Inventor:

Will G. Kelley,

By Wilkinson, Huxley, Byron & Knight
Attys.

UNITED STATES PATENT OFFICE

WILL G. KELLEY, OF CHICAGO, ILLINOIS

MEANS FOR CONNECTING ELECTRICAL CONDUCTORS

Application filed May 22, 1926. Serial No. 110,868.

This invention relates to means for connecting electrical conductors.

One object of the invention is to provide a simple, reliable and efficient self-contained non-corrosive connector whereby electrical conductors may be safely and easily and quickly connected and disconnected by use of a lineman's standard tools and without cutting or otherwise injuring a conductor.

10 Another object is to provide a connector for connecting electrical conductors for making a joint or connection of high conductivity without the use of a solder.

15 Another object is to provide a connector of the above type in which the connected conductors are gripped by a wedged action which cannot be disturbed by movement of the conductors.

20 Another object is to provide a connector for connecting electrical conductors adapted to meet all of the requirements under service conditions.

25 These and other objects are accomplished by means of the arrangement disclosed on the accompanying sheet of drawings, in which—

Figure 1 is a side elevation of conductor connecting means embodying my invention;

30 Figure 2 is a vertical sectional view of the same taken in the plane of line 2—2 of Figure 3;

Figure 3 is a transverse sectional view taken in the plane of line 3—3 of Figure 1;

35 Figure 4 is an end view of the same connector; and,

40 Figure 5 is a vertical sectional view taken in the plane of line 5—5 of Figure 2.

The various novel features of the invention will be apparent from the following description and drawings, and will be particularly pointed out in the appended claims.

Referring to the figures of the drawings, it will be noted that my invention is illustrated in connection with two electrical conductors, one of which may be called a line conductor or wire 10, and the other a tap conductor 11. It will be understood that the line conductor 10 is continuous and may be electrically connected to the tap conductor 11 without cutting the line conductor 10. The tap wire or conductor 11 may lead from the

line wire to a transformer or to a house for furnishing power and light.

Preferably the electrical connector is of copper and comprises a body member or housing 12, one side 13, the top 14 and the bottom 19 of which are provided with strengthening ribs 15. The opposite side 16 has an opening 17 extending throughout its length whereby the connector may be passed over the line conductor 10 and hooked onto the latter, it being understood that the upper wall 14 of the conductor is hook shaped and round both exteriorly and interiorly. The interior curved surface 18 of the connector is the surface which is engaged by the line conductor 10. 65 While the upper part of the housing is horizontally arranged, the bottom part 19 of the housing is inclined at an angle to the top wall 14. The bottom wall of the housing is round exteriorly and interiorly and is adapted to receive the tap wire or conductor 11, the tap conductor engaging the curved surface shown at 20. A portion of the bottom of the connector is open, as shown at 21, whereby the tap conductor 11 may be inserted into a housing. 75

The conductors 10 and 11 are pressed and held against the conductor engaging surfaces 18 and 20 respectively of the connector by a copper wedge 22, having upper and lower conductor engaging surfaces conforming to the relative angles of the upper and lower walls of the housing. The wedge is actuated for clamping purposes by a screw or stud 23 which is threaded through bent over ears 24 and 25 extending from the sides of the housing. It will be apparent that by rotating the stud 23 in one direction, the wedge will be forced into a conductor clamping position for electrically connecting the conductors and when rotated in the opposite direction, will release the wedge for permitting a ready disconnection of the conductors. The ears 24 and 25 act as a lock-nut in holding the stud in adjusted position, since there is a tendency for the ears 24 and 25 to spread away from each other when the stud 23 is forced against the wedge. The upper and lower curved conductor engaging surfaces 26 and 27 respectively of the wedge are cor- 100

rugated or roughened for gripping the conductors and for holding same against accidental movement.

When it is desired to electrically connect a line conductor with a tap conductor, it is merely necessary to hook the top of the connector over the line wire, slip the tap conductor into place, and force the wedge into clamping position by means of the stud 23. When it is desired to disconnect said conductors, it is merely necessary to loosen the stud to permit the wedge to be withdrawn, whereupon the tap conductor may be withdrawn from the connector and the connector moved from the line conductor.

By means of the arrangement herein disclosed and described, the connector may be easily applied to wires and removed therefrom, it being unnecessary to use the usual solder and the handling of an acid or flux in connection with the making of an electrical joint. The electrical connection or joint made by means of this connector has higher conductivity and less resistance than joints heretofore made, and by means of this connector the other objects of the invention as above outlined are accomplished.

It is my invention to cover all modifications of the invention falling within the spirit and scope of the following claims.

I claim:

1. A connector for connecting electrical conductors comprising a housing member having relatively inclined conductor engaging surfaces, side walls extending from said surfaces, an overlapping ear provided at one end of each of said side walls, a wedge for holding the conductors against said surfaces, and means extending through said ears for actuating and holding said wedge in position for forming an electrical connection between the conductors, said ears being spread apart by the holding action of the wedge whereby they act to lock the means in holding position.

2. A device adapted for clamping a plurality of elongated members, comprising, in combination, a hollow body member having side walls and a plurality of oppositely disposed smooth clamping portions, a clamping block mounted within the body member for thrusting the elongated members into engagement with the clamping portions of the body member, said clamping block being provided with a plurality of oppositely disposed, roughened surfaces which serve to engage the elongated members and prevent movement of the clamping device relatively to said members, means for actuating said clamping block, and extensions from said side walls overlapping each other and forming a support for the actuating means.

Signed at Chicago, Illinois, this 18th day of May, 1926.

WILL G. KELLEY.