

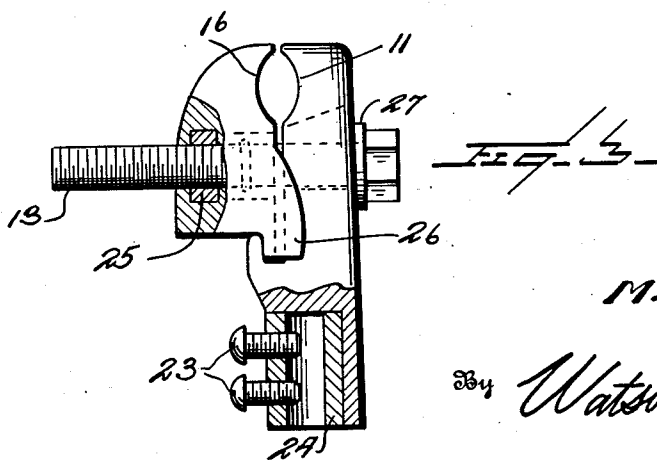
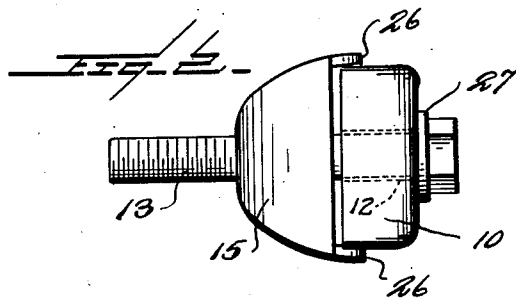
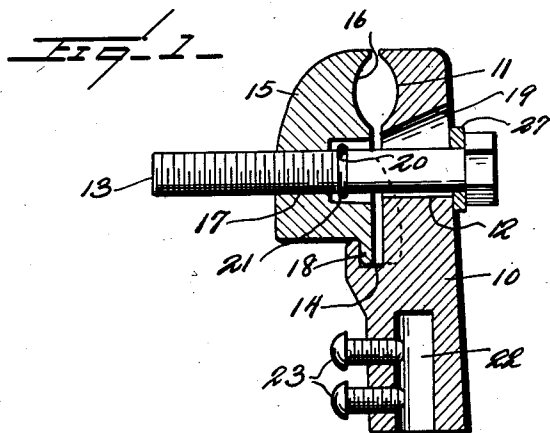
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WIRE CLAMP

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WIRE CLAMP

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The present invention relates to clamps and more particularly to clamps adapted for use in tapping electric wires of relatively high voltage.

5 An object of this invention is to provide a clamp which may be used for tapping electric lines carrying relatively high voltage so as to provide a relatively safe clamp which will not subject the linesman to injury from contact with the high voltage carried by the line.

10 Another object of this invention is to provide a clamping member of relatively simple construction which can be placed on the line quickly and which will be firmly and securely held in the desired position.

15 A further object of this invention is to provide a clamp which may be securely positioned on the line with only one operation necessary for securing the clamp in position thereby simplifying the method of securing the clamp and decreasing the cost of the placement of the device on the line.

20 A still further object of this invention is to provide in a clamp of this character means for securely fastening an electric line thereto.

25 The above and various other objects and advantages of this invention will in part be described in and in part be understood from the following detailed description of the preferred embodiment, the same being illustrated in the accompanying drawings wherein:

30 Figure 1 is a longitudinal section partly in elevation of a device constructed according to this invention;

35 Figure 2 is a detailed top plan view of the device; and

Figure 3 is a side elevation partly in section of a modification of this invention.

40 Referring to the drawings wherein like numerals of reference designate corresponding parts throughout the several views, the numeral 10 designates one of the jaw members of a clamp which is provided adjacent the outer end portion thereof with a transverse recess 11 for receiving an electric line. The fixed jaw member 10 is also provided with an elongated slot 12 therethrough spaced downwardly from the outer end portion for loosely receiving a bolt member 13.

The fixed jaw member 10 is provided on the inner face thereof with a transverse recess 14.

A movable jaw or clamping member 15 is provided with a complementary line receiving recess 16 which registers with the recess 11 in the fixed jaw member and is provided with a threaded aperture 17 for threadably receiving the bolt member 13. The movable jaw member 15 is provided with an inwardly extending flange 18 which is adapted to loosely engage in said transverse recess 14 so that when the movable jaw member 15 is moved outwardly from the fixed jaw member, the flange 18 will provide a fulcrum for the movable jaw member.

55 The slot 12 is preferably of tapering construction as at 19 and is elongated in the direction of the longitudinal axis of the fixed jaw 10 so that when the movable jaw member 15 is forced outwardly, the bolt 13 may coactively swing upwardly within the slot.

60 The bolt member 13 is provided with an annular groove or recess 20 spaced outwardly from the head of the bolt, and a ring member 21 is adapted to seat in said annular groove.

65 The ring member 21 is preferably spaced outwardly from the inner face of the fixed jaw member 10 and is adapted to prevent the bolt 13 from being withdrawn from the fixed jaw member 10 so that when the bolt member 13 is turned so as to move the movable jaw member outwardly, the ring member 21 will engage against the inner face of the fixed jaw member and thereby loosely hold the bolt member 13 within the slot 12.

70 In the assembling of this device, the bolt is first placed into the elongated opening 12, the bolt having the ring member 20 removed therefrom. After the bolt 13 is placed in the opening 12, the ring 21 is slipped over the threaded portion of the bolt 13 and pushed inwardly until it engages in the groove 20. The bolt 13 is then swivelly mounted in the fixed jaw member 10. The bolt may be threaded into the movable jaw member 15 and inclined upwardly a slight degree so that the flange 18 will pass over the upper edge of the transverse groove 14. It will be obvious that the width of the elongated slot 12 is less than the

diameter of the ring 21 so that when the ring 21 is mounted on the bolt 13, the bolt 13 cannot be withdrawn from the fixed jaw member 10.

5 The fixed jaw member 10 is provided adjacent the lower end portion thereof with a longitudinally disposed opening 22 for loosely receiving one end of an electric line or the like, and a plurality of bolt or screw members 10 23 are threadably mounted in the fixed jaw member 10 and extend into the annular opening 22 so as to securely hold the line on the fixed clamping member 10.

In the preferred embodiment of this invention the fixed jaw member 10 and the movable jaw member 15 are preferably constructed of aluminum or of some other electric conducting metal, and where aluminum is used in the construction of this device, an insert 24 20 is cast integrally with the fixed clamping member 10. The insert 24 may be of metal of different composition than the fixed clamp 10 and preferably of brass or copper so as to provide a firm or solid set screw holding 25 member inasmuch as it has been found that aluminum is of substantially brittle construction and a thread cannot be so readily cut into aluminum as in other metal, particularly where the bolt or set screw is tightened to a 30 considerable degree.

The clamping member 15 is also adapted to have a metallic member 25 cast integrally therewith, the member 25 being of different composition than the movable clamping member 15 and preferably of brass or copper composition so that a suitable thread may be cut 35 therethrough for threadably receiving the bolt member 13.

It is, of course, understood that the fixed 40 clamping member 10 and the movable jaw member 15 may be constructed of brass or copper in which case the plug member 24 and the annular ring 25 will be cast integrally with the clamping members. When this 45 clamp is made of brass or copper the screws 23 may be omitted if desired and the wire soldered directly into the longitudinal annular opening 22. The movable jaw member 15 is also provided with a pair of inwardly 50 extending flanges or ears 26 which are preferably cast integrally with the movable jaw member and are adapted to loosely engage about the opposite side portions of the fixed clamping member 10 so as to prevent lateral 55 movement of the movable jaw member with respect to the fixed jaw member.

A washer 27 may be interposed between the outer face of the fixed jaw member 10 and the head of the bolt 13 so that the head of the bolt 60 13 will not injure the outer face of the fixed jaw member.

In the use of this device, the wire to be connected to the live line is inserted in the longitudinal annular opening 22 and the set 65 screws 22 tightened down, then the bolt 13 is

backed out until it has forced the movable jaw member 15 to the open position. The clamp is grasped with an insulated stick made for handling live wires and the clamp is placed on the line to be tapped and an insulated socket wrench is used to tighten the 70 bolt 13 which draws the movable jaw member 15 down on the wire firmly in recesses 11 and 16. When it is desired to release the clamp from the line it is only necessary to loosen the bolt member 13 whereupon the annular ring 75 21 will prevent the bolt from being withdrawn from the fixed jaw member and at the same time the movable jaw member 15 will be forced outwardly thereby releasing the line 80 from the grooves 11 and 16.

It will be obvious from the foregoing that a relatively simple hot stick clamp has been provided which may be fastened or released by one operation, namely, the turning of the 85 bolt member 13.

It is, of course, understood that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of 90 the invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims.

What is claimed is:— 95

1. A clamp of the character described comprising a fixed jaw member having a tapering slot therethrough elongated in the direction of the longitudinal axis thereof, said jaw member also having a transverse groove 100 spaced downwardly from said slot, a movable jaw member having a threaded opening therethrough, a bolt loosely engaging said fixed jaw member in said elongated slot, said bolt threadedly engaging said movable jaw 105 member, said movable jaw member having a downwardly extending transverse flange loosely engaging said transverse groove in said fixed jaw member, a pair of inwardly extending flanges secured to said movable jaw member and adapted to loosely engage the opposite side portions of said fixed jaw member, said bolt having an annular groove spaced intermediate the ends thereof, and a ring engaging in said annular groove whereby to 110 prevent removal of the bolt from the fixed jaw member. 115

2. A clamp of the character described comprising a fixed jaw member having an elongated tapering slot therethrough spaced 120 downwardly from the upper end thereof, a movable jaw member having a threaded aperture therethrough, a bolt loosely engaging said fixed jaw member and adapted to threadably engage said movable jaw member, said movable jaw member having a pair of 125 downwardly extending flanges on the opposite side portions thereof whereby to loosely engage the opposite side portions of said fixed jaw member and a threaded apertured 130

member cast integrally with said jaw member, said threaded member being of different composition than the jaw member, an apertured plug integrally cast with said fixed jaw member, said plug member having a plurality of threaded openings therethrough, and a plurality of set screws threadably engaging said plug in said apertures whereby to firmly hold a wire in said plug.

In testimony whereof I hereunto affix my signature.

MANLEY R. COATES.

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