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CLAMP FOR GROUNDING ELECTRICAL EQUIPMENT

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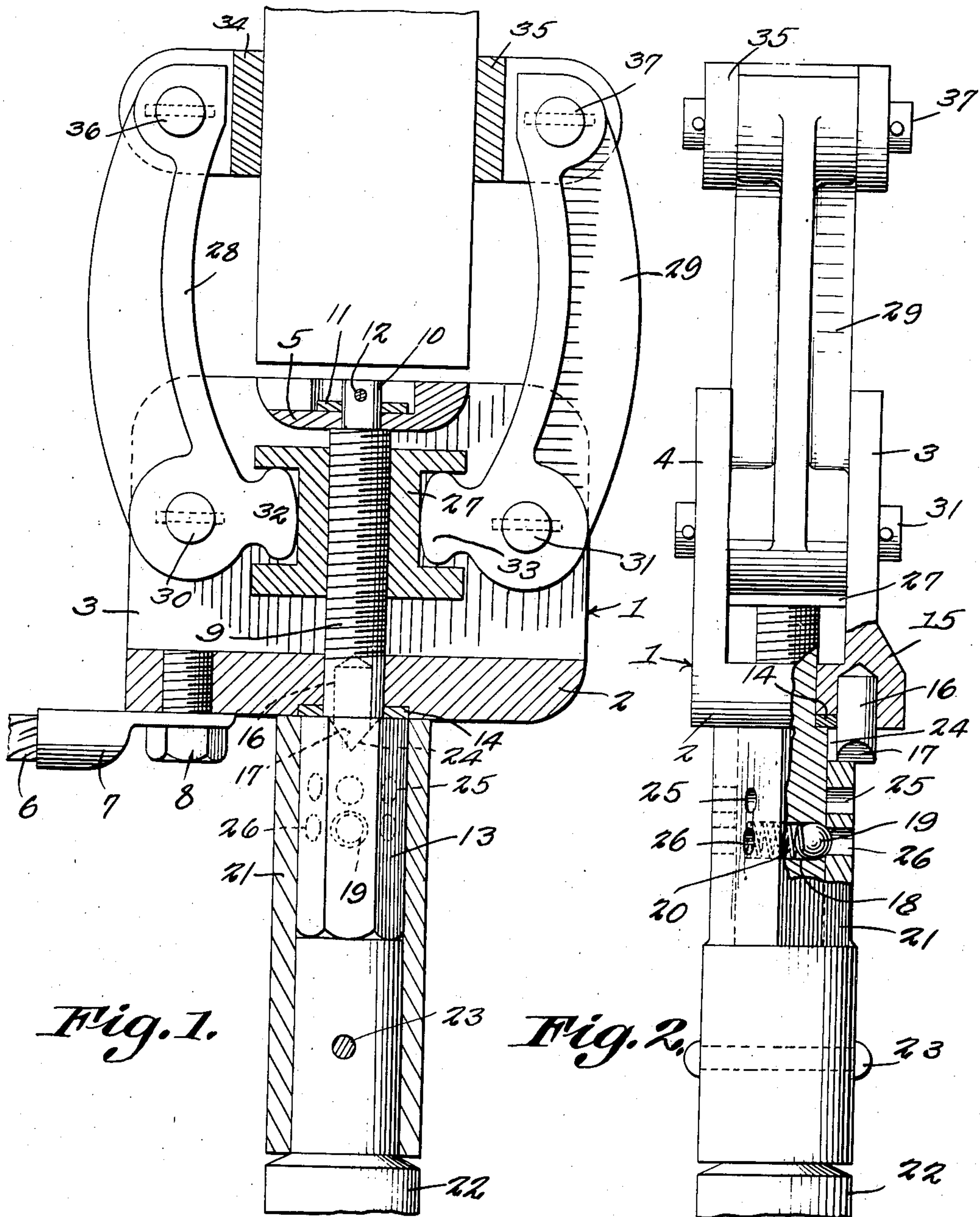


Fig. 1.

Fig. 2.

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CLAMP FOR GROUNDING ELECTRICAL EQUIPMENT

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2 Claims. (Cl. 173—273)

One object of this invention is to provide novel means for actuating the jaws of a clamp used for grounding electrical equipment. Another object of the invention is to provide a device of the class described, characterized by novel means for controlling and regulating the operation of a screw, by which the jaws of the grip are actuated.

Other objects will appear as the description proceeds.

10 In the accompanying drawing which forms a part of my application,

Figure 1 is a longitudinal sectional view through my improved clamp and cooperating socket wrench employed for operating the clamp; and

15 Figure 2 is a rear elevation, partly in section of the clamp and socket wrench, showing the spring pressed ball clutch connection between the clamp and wrench.

20 Like characters of reference are used throughout the following specification and the accompanying drawing to designate corresponding parts.

25 In carrying out my invention, I provide a clamp including a U-shaped head 1 having a base 2, oppositely disposed sides 3 and 4 and a transverse web 5 connecting the upper ends of sides. An electrical conductor 6 has a terminal lug 7 attached to the base 2 of the head 1 by a screw 8.

30 Disposed at right angles to the base 2 of the head and between the sides 3 and 4 is a screw 9 formed with a reduced upper end 10 extending through the web 5, and a washer 11 is disposed about the reduced end, the washer contacting the upper surface of the web, the washer being held in position by a connecting device or cotter pin 12. The lower end of the screw 9 extends through the base 2 of the head 1 and is provided with an elongated hexagonal foot 13, the inner end of the foot bearing upon a washer 14 located in a recess in the lower surface of the base 2 of the head 1.

40 Mounted in a laterally extending portion 15 of the head 1, is a depending pin 16 formed on its lower end with cam surfaces 17 which define a V. A transverse bore 18 is formed through the foot 13, and receives a locking ball 19 and a coiled compression spring 20, the spring serving to force a portion of the ball outwardly with respect to the foot 13 through a reduced opening at the end of the bore.

50 A hexagonal socket wrench 21 is supported upon the upper end of an insulated pole 22, and is fixed thereon by a cross pin 23 extending through the socket wrench and through the pole. Formed in the upper edge of the socket wrench 21 is a V-notch 24 adapted to receive the V-shaped

element 17 of the pin 16, when the socket wrench is placed over the foot 13 until the upper end of the wrench engages the lower surface of the base 2 of the head 1. Vertically spaced seats 25 and 26 are formed in the cuff of the socket wrench 21, and when the wrench is placed over the foot 13, until it engages the lower surface of the base portion 2 of the head 1, the locking ball 19 will be received within one of the seats 26, and the V-shaped part 17 of the pin 16 will be received in the V-notch 24 in the upper surface of the socket wrench 13. When the several parts are in this position, the clamp can be moved to a position in which it will receive a buss as shown in Fig. 1, and by rotating the insulated pole 22 and the socket wrench 21, the cam pin will ride out of the notch 24, the locking ball 19 will be forced out of the seat 26, and the socket wrench 21 will be forced downwardly away from the bottom of the base portion 2 of the head 1 until the ball 19 engages the upper seat 25, whereupon continued rotation of the insulated pole and socket wrench will cause the screw to rotate.

A circumferentially-grooved nut 27 is threaded upon the screw 9. Bell crank levers 28 and 29 are mounted upon pivot pins 30 and 31 carried by the sides 3 and 4 of the head 1. The bellcrank levers 28 and 29 have lower inwardly directed bearing portions 32 and 33, which ride in the groove of the nut 27. Clamping jaws 34 and 35 are pivotally mounted at the upper ends of the bellcrank levers 28 and 29 on pins 36 and 37 and are adapted to engage the buss to which the clamp is to be secured. The jaws 34 and 35 may be of any desired shape.

By rotating the socket wrench 21 and the screw 9, the traveling nut 27 will be caused to move downwardly upon the screw, and the bell cranks 28 and 29 will cause the jaws 34 and 35 to clamp firmly upon the buss. The sides 3 and 4 of the head 1 hold the nut 27 against rotation.

It will be apparent that by turning the insulated pole 22 and hexagonal socket wrench 21 in the opposite direction, the clamp will be loosened from the buss or hook switch.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

1. A device for grounding electrical equipment, comprising a head, means for attaching a conductor to a part of the device, gripping mechanism carried by the head, a rotatable member journaled in the head and constituting means for operating the gripping mechanism, the rotatable member including a foot disposed

below the head, a socket wrench shaped to receive the foot, the wrench and the foot including elements which connect them for rotation together, the head and the wrench having vertically-acting cam parts which connect the wrench releasably to the head and temporarily prevent the rotatable member from being turned, and the gripping mechanism actuated, whilst the device is being raised to working position, the cam parts coacting, when the wrench is turned forcibly, to move the wrench downwardly to a position in which the cam parts will not interfere with a free turning of the rotatable member, by means of the wrench, and an operation of the gripping mechanism, and an automatically-acting latch carried by the foot, the wrench having longitudinally-spaced upper and lower seats, the latch engaging the lower seat whilst the cam parts are interengaged, the latch engaging the upper seat, after the cam parts have been disengaged, to hold the cam parts out of engagement and to permit a free rotation of the wrench and the rotatable member.

2. A device for grounding electrical equipment, comprising a head, means for attaching a conductor to a part of the device, gripping mechanism carried by the head, a rotatable member journaled in the head and constituting means

for operating the gripping mechanism, the rotatable member including a foot disposed below the head, a socket wrench shaped to receive the foot, the wrench and the foot including elements which connect them for rotation together, the head and the wrench having vertically-acting cam parts which connect the wrench releasably to the head and temporarily prevent the rotatable member from being turned, and the gripping mechanism actuated, whilst the device is being raised to working position, the cam parts coacting, when the wrench is turned forcibly, to move the wrench downwardly to a position in which the cam parts will not interfere with a free turning of the rotatable member, by means of the wrench, and an operation of the gripping mechanism, the foot and the wrench constituting cooperating members, and an automatically-acting latch carried by one of said cooperating members, the other of said cooperating members having longitudinally spaced upper and lower seats, the latch engaging the lower seat whilst the cam parts are interengaged, the latch engaging the upper seat, after the cam parts have been disengaged, to hold the cam parts out of engagement and to permit a free rotation of the wrench and the rotatable member.

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