March 5, 1929. E. SNYDER 1,704,635

INSULATION REMOVER

Filed July 26, 1926

Fig. 1.

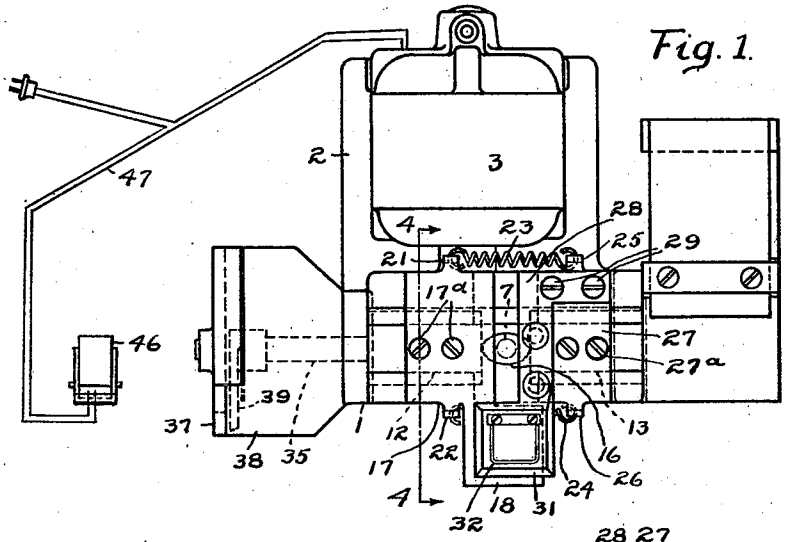
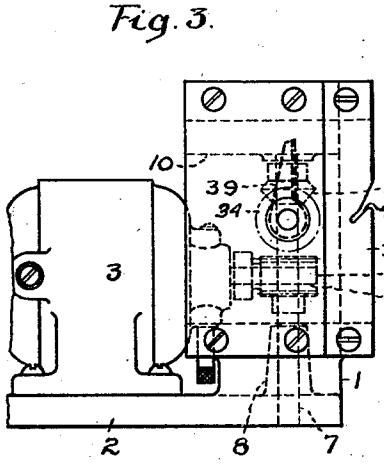


Fig. 3.



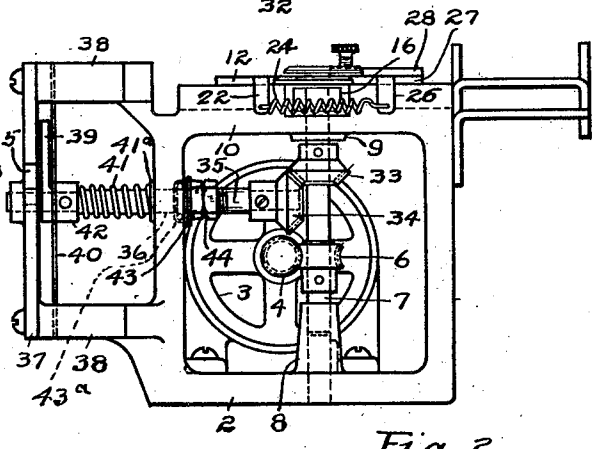


Fig. 2.

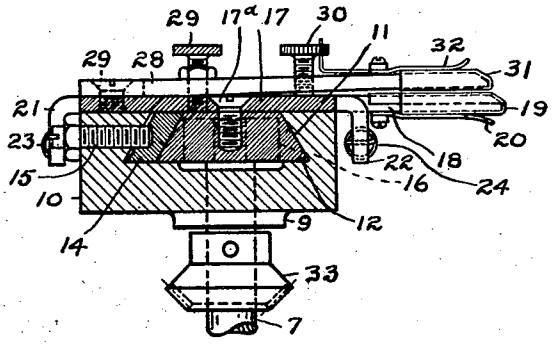


Fig. 4.

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Patented Mar. 5, 1929. 1,704,635

UNITED STATES PATENT OFFICE.

EDWARD SNYDER, OF FORT WAYNE, INDIANA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO GENERAL CABLE CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

INSULATION REMOVER.

Application filed July 26, 1926. Serial No. 124,809.

The invention relates to devices for removing insulation from wire and other articles, it being particularly directed to devices for the removal of insulating enamel from wire.

The object of the invention is to provide a simple device by which insulation may be rapidly and efficiently removed from wire.

Another object is to provide a device for removing insulation from wire with means by which to sever the wire or wires.

The invention consists of oppositely reciprocating abrading surfaces between which the insulated wire is disposed for removing the insulation and a rotating cutting member.

The invention is illustrated in the accompanying drawings, in which

Figure 1 is a plan view of a device embodying the invention; Fig. 2 is a rear elevational view of the same; Fig. 3 a side elevational view of the device and Fig. 4 a cross sectional view on line 4—4 of Fig. 1.

In the illustrative embodiment of the invention, 1 is a frame upon the base 2 of which an electric motor 3 is mounted. A worm 4 is secured to the end of the shaft 5 of the motor and meshes with a worm gear 6 secured to a vertical shaft 7 supported in a bearing 8 on the base 2 and in a bearing 9 formed in the top member 10 of the frame. A transversely or upwardly tapered groove 11 is formed in the top member 10 in which two blocks 12 and 13 are longitudinally slidable, the side walls of each block being tapered to correspond to the taper of the walls of the groove.

Between each block and the rear wall of the groove is a block 14 that is engaged by a set screw 15 disposed in the top member 10. By tightening up the set screw the block 14 may be moved toward the blocks 12, 13 to take up wear. Between the two blocks 12 and 13 is a cam 16 that is secured to the upper end of the shaft 7. The cam is engaged by the two blocks and it separates them when it is revolved by the shaft.

A plate 17 is secured to the block 12 by the screws 17ª and has an extension 18 at its front edge about which is removably engaged an abrasive medium 19, such as sandpaper or emery cloth, the medium being held in place by a spring 20 secured to the plate. Lugs 21, 22 also project from opposite ends of the plate 17 respectively, and are preferably bent downwardly. Springs 23, 24 are connected respectively to the lugs 21, 22 and to similar lugs 25, 26 similarly formed on the opposite ends of the plate 27 that is secured by the screws 27ª to the block 13.

A bar 28 is secured at one end by the screws 29 to the plate 27 and set screws 29 and 30 are carried by the bar by which tension on the bar is regulated. An abrading medium 31 is engaged on the outer forward end of the bar 28 and is held thereon by the spring 32, the medium 31 being above the medium 19.

The springs 23 and 24 oppose the separating movement of the blocks 12 and 13 and of the plates 17 and 27 by the cam and hence retract the same after each separating reciprocation.

By adjusting the screws 29 and 30 the clearance between the two abrading mediums is regulated.

A gear 33 is secured to the shaft 7 and meshes with a gear 34 secured to a horizontal shaft 35 having a bearing 36 on the main frame and in a plate 37 secured to the lateral extensions 38 of the frame. A cutting blade 39 is mounted on the shaft adjacent to the wall 37 and a plate 40 is mounted on the opposite side of the blade to form a guard. A spring 41 abuts the hub 42 of the blade at one end and at its opposite end it abuts a washer 41ª that abuts the frame 1. On the opposite side of the frame is a washer 43 that abuts a radial thrust bearing 43ª carried by the frame. Behind washer 43 are two lock nuts 44 that are threaded on the shaft. By adjusting the lock nuts the desired pressure may be placed on the blade 39 and the parts connected thereto by the expansion of the compressed spiral spring 41.

A notch 45 is formed in the front edge of the plate 37 into which a wire or wires may be inserted to sever them or cut off an undesirable end thereof.

In practice the wire is grasped in both hands and inserted between the abrading members. The insulation is removed with great rapidity as the said members are reciprocated at high speed. The end of the wire from which the insulation has not been removed is generally cut off and it is this end that is inserted in the notch 45 and which is cut off by the blade 39.

It is preferably to control the operation of

the electric motor by a foot switch 46 of suitable type that is interposed in the circuit 47 leading to the motor, permitting the functioning of the machine only at desired intervals, thus prolonging the life of the two abrading mediums 31 and 19.

What I claim is:

1. An insulation remover consisting of two plates slidably mounted one above the other, an abrading medium removably mounted on each plate, a revoluble cam having operative connection with both plates for reciprocating the plates in opposite directions, means connected to both plates for retracting them and means on one of the plates to adjust the clearance between it and the other plate.

2. The combination of two opposed reciprocable abrading mediums, a revoluble shaft, means to rotate the shaft, means driven by the shaft for reciprocating the abrading mediums in opposite directions, means to adjust the mediums relatively to each other, a cutting member having driven connection with the shaft and means to place pressure upon the cutting member.

3. The combination of two reciprocable members, lateral members carried by the reciprocable members, abrading mediums on the lateral members and opposing one another, a revoluble shaft, a cam on the shaft engaging both reciprocable members and adapted to reciprocate them in opposite directions, means to retract the reciprocable members and means to adjust the mediums relatively to each other.

4. The combination of two alined reciprocable members, lateral members carried by the reciprocable members, abrading mediums on the lateral members and opposing one another, a revoluble member between the opposed ends of the reciprocable members and adapted to reciprocate the latter members in opposite directions and means to retract the reciprocable members.

In witness whereof I have hereunto signed my name this 23rd day of July, 1926.

EDWARD SNYDER.