March 5, 1929. J. S. THOMPSON 1,704,491

TOOL FOR HANDLING ELECTRIC FUSE TUBES AND THE LIKE

Filed Aug. 17, 1925

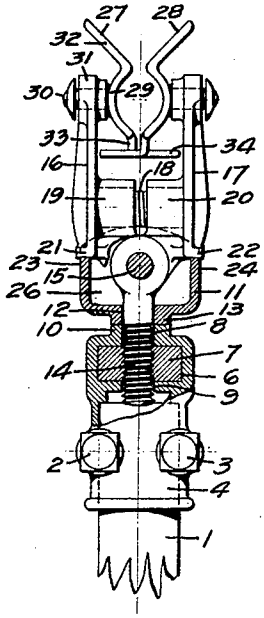


FIG. 1.

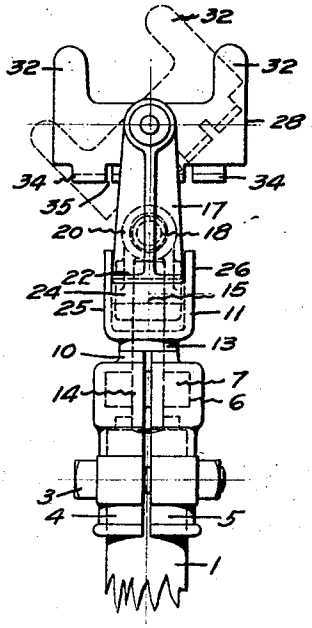


FIG. 2.

FIG. 3.

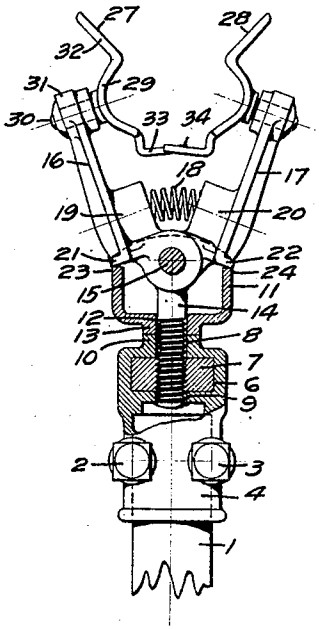
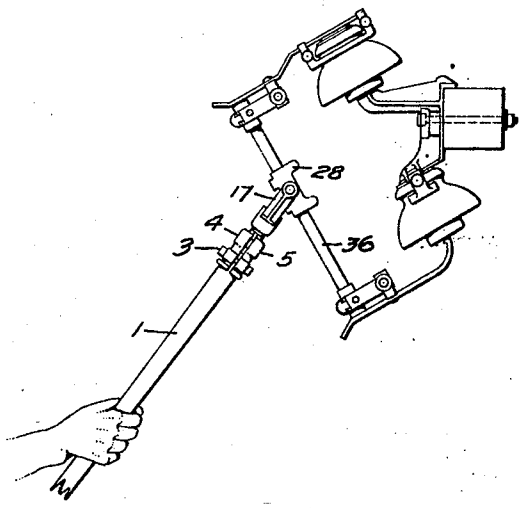


FIG. 4.



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UNITED STATES PATENT OFFICE.

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TOOL FOR HANDLING ELECTRIC FUSE TUBES AND THE LIKE.

Application filed August 17, 1925. Serial No. 50,886.

This invention relates to a tool for handling electric fuse tubes and the like and has for its object the provision of a simple and rugged device of this character whereby fuse tubes may be readily placed in or removed from the circuit without danger to the person performing the operation.

The invention possesses other advantageous features, some of which with the foregoing will be set forth in the following description where I shall outline that form of the invention which I have selected for illustration in the drawings accompanying and forming part of the present specification. In said drawings I have shown but one form of the invention but I do not desire to be limited thereto since the invention as set forth in the claims may be embodied in a plurality of other forms.

Referring to the drawings:

Figure 1 is a vertical sectional view, with parts in elevation, of a tool embodying my invention, the handle of the same being broken away and the clamping means being shown in closed position.

Fig. 2 is an elevation at right angles to Fig. 1, with one of the positions the clamping means may assume indicated in dotted lines.

Fig. 3 is a view similar to Fig. 1 with the clamping means shown in open position; and

Fig. 4 is an elevation illustrating the manner in which a tool embodying my invention may be used.

In the drawing I have shown a handle 1 of suitable insulating material, to one end of which is secured by means of bolts 2 and 3 a split sleeve comprising the parts 4 and 5. The free ends of the parts 4 and 5 are provided with suitable walls to form a chamber 6 to receive a square nut 7 and hold the same against rotation. The walls of chamber 6 are provided with openings 8 and 9 concentric with the opening in nut 7 and a flat shoulder 10 is provided around the opening 8. A cup-shaped member 11, preferably rectangular in cross-section, having a central opening 12 in its bottom and a shoulder 13 surrounding said opening is adjacent the chamber 6, the shoulder 13 thereof resting on the shoulder 10. A threaded eye-bolt 14 extends from the interior of the cup-shaped member 11 through its opening 12, the opening 8, through the nut 7 and in threaded engagement therewith, and through the bottom opening 9 in chamber 6. In its lowermost position as shown in Fig. 1, the bolt 14 extends a slight distance beyond the opening 9 and is flattened at its end to limit its upward movement.

The eye bolt 14 is provided with a shaft 15 at right angles thereto which pivotally supports arms 16 and 17, which arms are normally urged apart by a spring 18 seated in holders 19 and 20 on the arms 16 and 17 respectively. The arms 16 and 17 are formed with shoulders 21 and 22 respectively both of which rest on opposite sides 23 and 24 of the member 11. The remaining two sides 25 and 26 of the member 11 are preferably higher than the sides 23 and 24 thereof as shown in Fig. 2 whereby the arms 16 and 17 are positioned on the member 11 to prevent lateral movement. At their free ends, the arms 16 and 17 respectively support similar clamping members 27 and 28. Since both of said members are similar a description of member 27 will be sufficient. This member is preferably provided with a curved portion 29 secured on its convex side to a shaft 30 which is journaled in a bearing 31 on the arm 16. Adjacent the upper ends of the curved portion 29, the clamp 27 is provided with fingers 32 bent rearwardly at an angle. The end 33 adjacent the lower end of the curved part 29 is in the form of a right angle bent forwardly. The part 33 is provided with a plurality of fingers 34 adapted to fit into cooperating slots 35, see Fig. 2, in the corresponding part 33 of the clamping member 28, whereby the clamping members 27 and 28 are kept in alignment with respect to each other. In view of the foregoing detailed description of the construction of a tool embodying my invention its operation will be readily understood from a brief description thereof. Normally, the parts are as shown in Fig. 3 in which the clamping members 27 and 28 are shown as separated by the action of spring 18. With the parts in this position, a fuse tube 36 shown in Fig. 4, is engaged between the clamping members 27 and 28 and the clamping members are tightened thereon by rotating the handle 1, which causes the threaded bolt 14 to move inwardly and draw the arms 16 and 17 together in a manner readily understood. By reason of the pivotal mounting of clamping members 27 and 28 on the arms 16 and 17, the handle 1 may assume various angular positions with respect

to fuse tube 36. In order to release the fuse tube, the handle is simply rotated in the opposite direction.

I claim:

1. A device of the character described comprising two supporting arms pivoted on a common axis, clamping members pivotally supported by said arms, means on said clamping members for keeping the same aligned, resilient means normally urging said arms apart and means including a handle rotatable with respect to said arms for moving said arms toward each other.

2. A device of the character described comprising two supporting arms pivoted on a common axis formed with recesses adjacent their inner ends, clamping members pivotally supported on their free ends, means on said clamping members for keeping the same aligned, a coiled spring seated in said recesses normally urging said arms apart and means including a handle rotatable with respect to said arms for moving said arms toward each other.

3. A device of the character described comprising a handle, an internally threaded member fixed on the end of said handle, a cup-shaped member mounted above said internally threaded member and capable of relative rotation therewith, clamping means having shoulders engaging the edge of cup-shaped member, a shaft pivotally supporting said clamping means, resilient means normally urging said clamping means apart and a threaded element connecting at right angles with said shaft extending loosely through said cup-shaped member and engaging the threads of said internally threaded element.

4. A device of the character described comprising a handle, an internally threaded member fixed on the end of said handle, a member having opposite upright walls mounted above said internally threaded member and capable of relative rotation therewith, clamping means having shoulders engaging the edges of said upright walls, a shaft pivotally supporting said clamping means, resilient means normally urging said clamping means apart and an externally threaded element connected at right angles with said shaft extending loosely through said rotatable member and engaging the threads of said internally threaded member.

In testimony whereof, I have hereunto set my hand.

JOSEPH S. THOMPSON.