April 6, 1926. 1,579,695

B. K. FORD

METHOD OF WHIPPING CORES WITH STRAND MATERIAL

Filed August 22, 1924

Fig. 1.

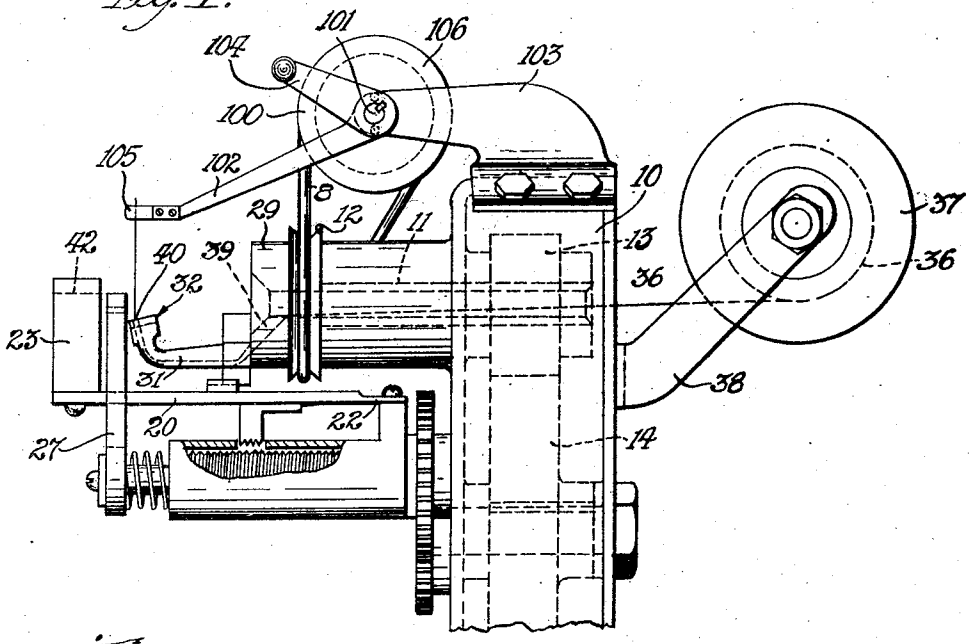


Fig. 2.

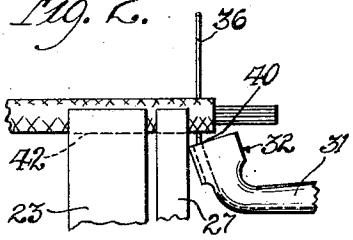


Fig. 5.

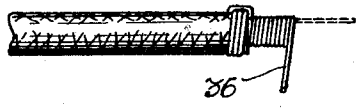


Fig. 3.

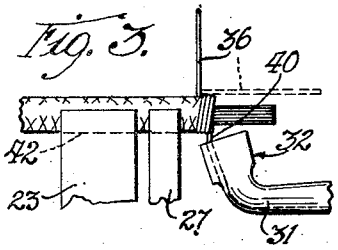


Fig. 6.

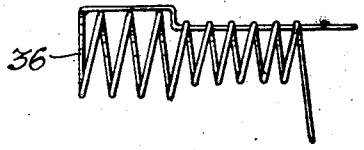
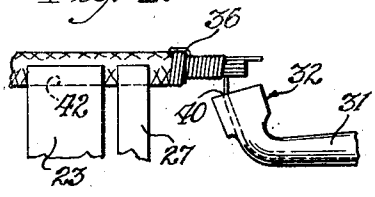


Fig. 4.



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by H. A. Cottrell Atty.

Patented Apr. 6, 1926. 1,579,695

UNITED STATES PATENT OFFICE.

BEN KING FORD, OF OAK PARK, ILLINOIS, ASSIGNOR TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

METHOD OF WHIPPING CORES WITH STRAND MATERIAL.

Application filed August 22, 1924. Serial No. 733,459.

To all whom it may concern:

Be it known that I, BEN KING FORD, a citizen of the United States, residing at Oak Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Method of Whipping Cores with Strand Material, of which the following is a full, clear, concise, and exact description.

This invention relates to a method of whipping cores with strand material, and more particularly to a method of whipping the ends of telephone cords with strand material preparatory to securing terminals thereto.

The object of the invention is to provide an improved method of whipping cores with strand material.

Briefly described, the method consists in holding the end portion of the whipping strand away from the core while a predetermined number of helices of strand are applied to the core, then laying the end portion of the strand over the applied helices and along the adjacent exposed portion of the core and thereafter continuing the whipping, covering the end portion of the strand to retain it in position.

The method disclosed herein may be employed to advantage for whipping the ends of telephone cords with wire or other strand material preparatory to securing terminals thereto, but it is to be understood, however, that the invention is to be limited only in so far as defined by the appended claims.

The drawings illustrate the improved method for whipping the cord and disclose a portion of an apparatus capable of performing the improved method which apparatus is fully disclosed in copending application, Serial No. 682,868, filed December 27, 1923, by H. H. C. Grondahl, and which issued November 11, 1924, as Patent No. 1,514,852.

It will be noted that in the above mentioned application no specific means is disclosed for actuating the driving belt, whereas manually operated means is disclosed herein for actuating this belt.

Other objects and advantages of the invention will more fully appear as the following detailed description progresses, wherein reference is made to the accompanying drawings which illustrate one embodiment of the invention, and in which,

Fig. 1 is a fragmentary elevation, partly in section of the apparatus for performing the improved method;

Fig. 2 is a fragmentary view of a portion of Fig. 1 illustrating the first step in the method;

Figs. 3 and 4 are views similar to that shown in Fig. 2 illustrating additional steps in the method;

Fig. 5 is a view of a cord after it has been removed from the whipping mechanism, and

Fig. 6 is a diagrammatic view showing the way the wire is laid on the end of the cord.

Referring now to the drawings in detail in which like reference numerals designate similar parts throughout the several views, 8 denotes a twisted belt which is adapted to be driven by a pulley 100, secured to a shaft 101, supported in an arm 103 suitably mounted on a frame 10. The shaft 101 is driven by a hand actuated crank 104 secured to one end thereof. The belt 8 drives a main driving pulley 12 formed on one end of a hollow rotatable shaft 11. Secured to the other end of the shaft 11 is a pinion 13 which meshes with a gear 14. Formed on the pulley 12 is a collar 29 which carries a whipping arm 31, an end 32 of which is provided with a V-shaped depression.

A supply of wire 36 to be used for whipping cords is carried on a spool 37, rotatably mounted in a bracket 38 secured to the rear of the frame 10. The wire 36 is fed from the spool 37 through the hollow shaft 11, through a groove 39 formed in the collar 29, along one side of the arm 31, and then through an opening 40 in the end 32 of the whipping arm 31. A lever 20 having a flexible end 22 carries on its other end a cord support 23 provided with a V-shaped depression 42 in its top surface within which the end of the cord to be whipped is placed. Located in the front of the support 23 is an upwardly extending arm 27 having a depression similar to the depression 42 of the support 23 which aids in properly positioning the cord.

The apparatus for causing the arm 31 to rotate and for moving the support 23 rearwardly is fully disclosed in the aforementioned copending application. The wire 36 is drawn by the operator from the spool 37, through the end 32 of the whipping arm 31 up to a pair of gripping fingers 105 suit-

ably carried by an arm 102 mounted on the end of the shaft 101 and secured to the arm 103 by two pins 106. A cord is then placed in the depression 42 of the support 23 and the support 23 is depressed by the operator (Fig. 2). While holding the cord in the depression 42 with one hand the operator turns the crank 104 with her other hand revolving the pulley 100, driving the whipping mechanism, and moving the support outwardly. As soon as a predetermined number of turns of the wire, two or three helices being preferable or a given length of wire has been applied to the cord, the operator stops the pulley 100 in such a position so that the arm 31 is brought to its original position underneath the cord. The operator then releases the end of the wire 36 from the pair of fingers 105 and lays it over the applied turns or helices of wire and along the adjacent exposed portion of the cord as shown by the dotted lines in Fig. 3. It will be noted that the operator must keep the cord support in its depressed position until the whipping operation is entirely completed. The operator then continues turning the pulley 100, causing the wire to be whipped about its end as well as the end of the cord as shown in Fig. 4.

After the whipping operation is completed the cord is removed from the support 23 and the wire 36 is severed therefrom (Fig. 5). Upon the removal of the cord from the support 23 the support is automatically returned to its original position bringing the arm 31 to a stop at its normal position. It will be noted that the method of whipping disclosed herein does not require that the wire be looped preliminary to the whipping as disclosed in the above noted application. The way the wire is applied to the cord is readily apparent from the diagrammatic view shown in Fig. 6.

What is claimed is:

1. A method of whipping a core with a strand, which consists in holding the end of the strand away from the core, whipping a turn of the strand about the core, causing a relative movement between the end of the strand and the core in such a manner that the end of the strand extends over the applied turn longitudinally of the core, and thereafter continuing the whipping, covering the end of the strand to retain it in position.

2. A method of whipping a core with a strand, which consists in holding the end of the strand away from the core, whipping a turn of the strand about the core, applying the end of the strand over the turn, and thereafter continuing the whipping, covering the end of the strand to retain it in position.

3. A method of whipping a core with a strand, which consists in holding the end of the strand away from the core, whipping a predetermined number of turns of the strand about the core, causing a relative movement between the end of the strand and the core to cause the said end to be laid over the applied turns of the strand, and thereafter continuing the whipping, covering the end of the strand to retain it in position.

4. A method of whipping a core with a strand, which consists in holding the end of the strand a predetermined distance from the core, whipping a predetermined number of helices of the strand about the core, laying the end of the strand over the applied helices and along the adjacent exposed portion of the core, and thereafter continuing the whipping, covering the end of the strand to retain it in position.

5. A method of whipping a core with a strand, which consists in drawing the end of the strand a predetermined distance from the core, holding it in this position, applying a predetermined number of turns of strand about the core, moving the core outwardly a given distance for each turn of strand applied thereto, stopping the whipping, removing the end of the strand from its held position, laying it over the applied turns and along the adjacent exposed portion of the core, and thereafter continuing the whipping, covering the end of the strand to retain it in position.

6. A method of whipping a core with a strand, which consists in holding the end portion of the strand radially of the core, whipping a turn of the strand about the core, applying the end portion of the strand over the turn and thereafter continuing the whipping, covering the end portion of the strand to retain it in position.

7. A method of whipping a core with a strand, which consists in holding the end portion of the strand radially of the core, whipping a predetermined number of turns of the strand about the core, laying the end portion of the strand over the turns and against the exposed end of the core and thereafter continuing the whipping, covering the end portion of the strand to retain it in position.

In witness whereof, I hereunto subscribe my name this 15th day of August A. D., 1924.

BEN KING FORD.