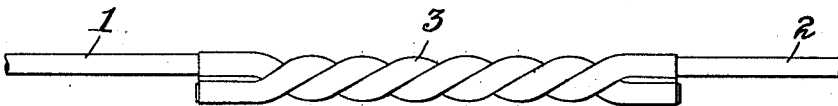
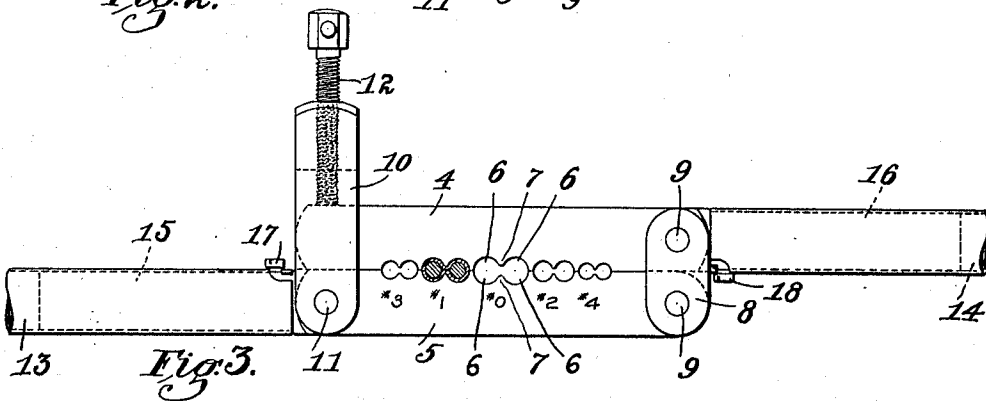
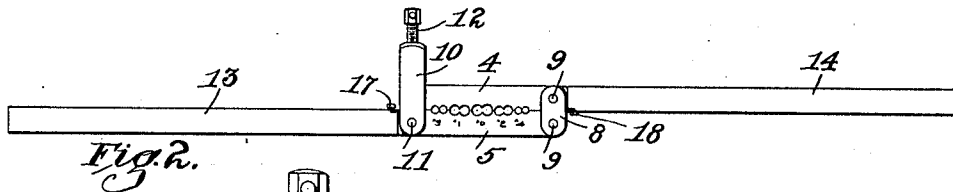
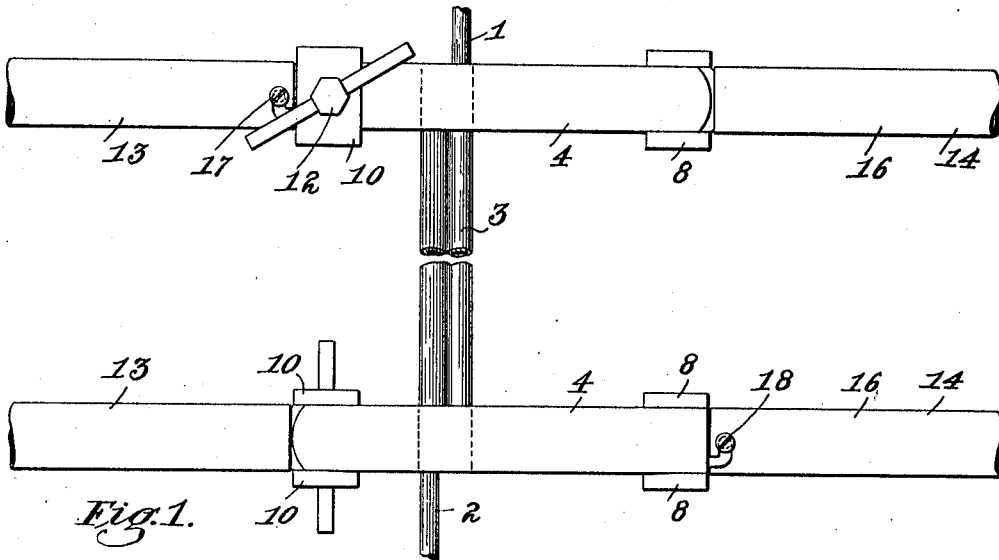


A. FREIER.
JOINT TWISTING TOOL.
APPLICATION FILED JUNE 12, 1911.

1,004,008.

Patented Sept. 26, 1911.



Witnesses:

Roswell F. Welch

George S. Stebbins.

Inventor:

Anton Freier
by his Attorney
Philip Van Curen Fish

UNITED STATES PATENT OFFICE.

ANTON FREIER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE HOLTZER-CABOT ELECTRIC COMPANY, OF BROOKLINE, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

JOINT-TWISTING TOOL.

1,004,008.

Specification of Letters Patent. Patented Sept. 26, 1911.

Application filed June 12, 1911. Serial No. 632,634.

To all whom it may concern:

Be it known that I, ANTON FREIER, a citizen of the United States, residing at Roxbury, Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Joint-Twisting Tools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to joint twisting tools for forming a twisted sleeve joint for electric wires.

One method of forming a joint between the ends of electric wires without the use of solder is to insert the ends of the wires into a sleeve having either the cross section of a flattened ellipse or of the general form of a figure 8 and to twist the sleeve and inclosed wires so that the metal of the sleeve is flowed around the wires and forms a practically cold welded joint.

The object of the present invention is to produce a joint twisting tool for use in forming a twisted sleeve joint between electric wires.

With the above object in view, the present invention consists in the joint twisting tool hereinafter described and particularly pointed out in the claims.

In the drawings Figure 1 is a top view of two joint twisting tools applied to the opposite ends of the wire joining sleeve in position to twist the sleeve. Fig. 2 is a side view showing a single joint twisting tool. Fig. 3 is an enlarged view showing the sleeve gripping jaws of the joint twisting tool and Fig. 4 is a view of the completed twisted sleeved joint.

Referring to the drawings the ends of the wires 1 and 2 to be connected are inserted from either end and lie side by side in the wire inclosing sleeve 3. The sleeve 3 is shown as the joint connecting sleeve in common commercial use and has a cross section somewhat like a figure 8. After the wires are so inserted, the ends of the sleeve are gripped by two joint twisting tools and the sleeve and inclosed wires twisted to form the wire connecting joint. Each joint twisting tool has a pair of sleeve gripping jaws 4 and 5. In the opposing faces of these jaw members 4 and 5 are formed twin sleeve receiving grooves 6.

Each pair of grooves has the outline or contour of a half of a figure 8 so that when the jaws are closed an aperture between the jaws of substantially the outline of a figure 8 is provided in which the end of the sleeve 3 is gripped. The opposing projections 7 which form the narrow portion of the figure 8, press against the end of the sleeve between the wires, closing the end of the sleeve firmly about the wires and affording a good grip of the twisting tool on the sleeve.

In the drawings five sets of twin wire receiving grooves are shown numbered for the sizes of wire which they are adapted to accommodate. The gripping jaw members 4 and 5 are hinged together by means of a yoke which consists of twin links 8 connected together by bearing pintles 9 journaled in the jaw members. A swing yoke 10 is pivoted to the other end of the jaw member 5 by a pintle 11 journaled therein. The yoke 10 may be swung out to a position approximately parallel with the jaw member 5 so that the jaw members may be separated for the admission or removal of the wire joining sleeve. The free end of the swing yoke 10 is provided with a clamping bolt 12, which is adapted to be turned by hand to force the gripping jaws together as shown in Fig. 3.

In using the joint twisting tool the clamping jaws are brought together over the end of the wire joining sleeve, the swing yoke 10 is swung over the jaw 4 and the clamping bolt 12 turned to force the jaws together and cause the coöperating teeth or projections 7 to bite against the sleeve between the inclosed wires so that the end of the sleeve is closed tightly about the wires and a solid grip afforded the twisting tool. After a joint twisting tool has been applied to each end of the sleeve, they are turned in opposite directions by hand. The joint twisting tool is provided with removable handles 13 and 14. These handles are formed of steel tubing and are fitted over the spindle-like extensions 15 and 16 of the gripping jaws 5 and 4 respectively. Clamping screws 17 and 18 form with slots in the ends of the tubular handles bayonet joints to retain the handles 13 and 14 on the spindles 15 and 16. The heads of the screws 17 and 18 are adapted to clamp over the edges of the slots in the tubular handles to firmly retain them in place. By providing

the removal handles the jaw twisting tool may be disassembled into three separate pieces which are short enough to fit conveniently into the workman's tool kit.

Having thus described the invention what is claimed is:—

1. A tool for twisting a sleeved electric wire joint, having, in combination, a pair of pivotally connected sleeve gripping jaws each provided with cooperating twin sleeve receiving grooves in their opposing faces, means for clamping the free ends of the jaws together, and handles for turning the joint twisting tool to form a twisted wire joint.

2. A tool for twisting a sleeved electric wire joint, having, in combination, a pair of sleeve gripping jaws each provided with cooperating twin sleeve receiving grooves in their opposing faces, said grooves forming an aperture between the jaws of an outline substantially like that of a figure 8 when the jaws are closed, means for clamping the jaws together to grip a wire joining sleeve in said grooves, and handles for turning the joint twisting tool to form a twisted wire joint.

3. A tool for twisting a sleeved electric wire joint, having, in combination, a pair of gripping jaws each provided with twin sleeve receiving grooves on their opposing

faces, projections formed on the jaw members between the grooves adapted to bite against a wire inclosing sleeve between the wires inclosed therein and force the end of the sleeve about the inclosed wires, clamping means for forcing the jaws together, and handles for turning the joint twisting tool to form a twisted wire joint.

4. A tool for twisting a sleeved electric wire joint, having, in combination, a pair of sleeve gripping jaws each provided with twin sleeve receiving grooves in their opposing faces, said grooves forming an aperture between the jaws of an outline substantially like that of a figure 8 when the jaws are closed, a hinged joint connecting said jaws at one end, a swing yoke connected to the opposite end of one of the jaws and adapted to be swung out over the free end of the other jaw, a clamping bolt in the free end of the swing yoke adapted to be turned against the free end of said second mentioned jaw to clamp the jaws together, spindle-like extensions on the opposite ends of the respective jaw members, and tubular handles adapted to be fitted over and held upon said extensions.

ANTON FREIER.

Witnesses:

HORACE VAN EVEREN,
GEORGE E. STEBBINS.