(No Model.)

C. McINTIRE.

WIRE JOINT.

No. 347,625. Patented Aug. 17, 1886.

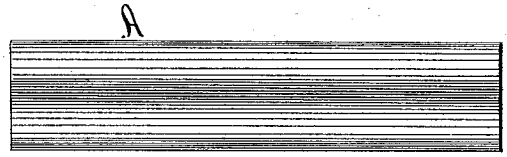


Fig. 1.

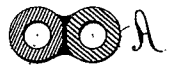


Fig. 2.

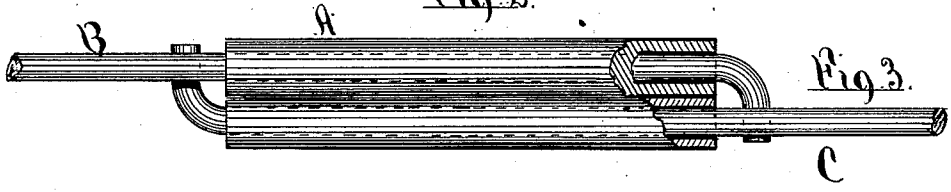


Fig. 3.

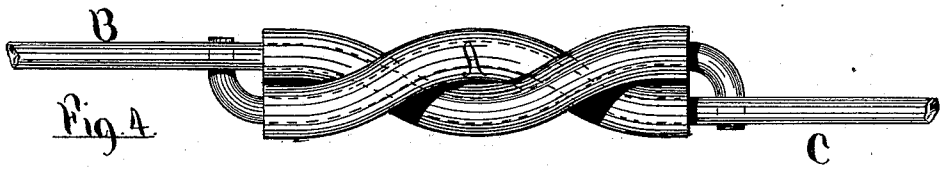


Fig. 4.

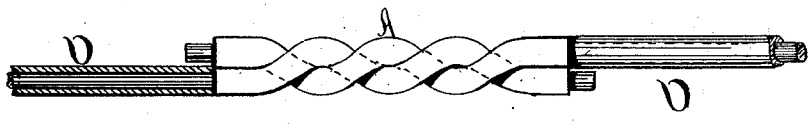


Fig. 5.



Fig. 6.



Fig. 7.



Fig. 8.

WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES McINTIRE, OF NEWARK, NEW JERSEY.

WIRE-JOINT.

SPECIFICATION forming part of Letters Patent No. 347,625, dated August 17, 1886.

Application filed December 2, 1885. Serial No. 184,415. (No model.)

To all whom it may concern:

Be it known that I, CHARLES McINTIRE, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Wire-Joints; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a joint of increased tensile strength for connecting telephone and telegraph wires for cables, or any use to which wire can be used in lengths, and in which a joint is necessary; and, further, to secure a joint for electric wires in which the conductivity of said wires is not obstructed, but assisted and maintained.

The invention is also designed to reduce the cost of constructing wire-joints, and to simplify the operation of uniting the wires by the linemen in putting up the wires.

The invention consists of a torsion-joint formed of a twisted covering, through which the ends of the wires are inserted oppositely before the covering is twisted, and conform to the twist of the covering, substantially as indicated in the drawings, described herein, and finally embodied in the clauses of the claim.

Figure 1 in the drawings is a plan of one form of the joint-covering. Fig. 2 is a transverse section thereof. Fig. 3 is a plan of the covering before being twisted with the wires inserted oppositely therein. Fig. 4 is a similar view showing the completed twisted joint, and Fig. 5 is a plan of the completed joint and insulated wire. Figs. 6, 7, and 8 are detail views illustrating different methods of forming the joint-covering.

Similar reference-letters are used to designate corresponding parts in each of the above-described views.

In said drawings, A indicates the joint-covering, which may be formed in a variety of ways.

In Figs. 1, 2, 3, 4, and 5 is shown one form of construction, in which the joint is formed from two tubes of the proper length and diameter, soldered or otherwise united together. The method considered preferable is shown in Fig. 2, in which the tubes are soldered together.

Figs. 6 and 7 illustrate another method of constructing the covering, in which an oval tube is used, which is grooved or creased, as indicated in Fig. 7, either before or after the wires are inserted therein.

Fig. 8 indicates still another formation of the covering, in which a plate is drawn or bent into the shape shown, similar to the figure 8.

These various forms are designed to illustrate some of the ways of constructing a covering suitable for a torsion-joint, to which methods of construction, however, the invention is not intended to be limited.

Into the covering thus formed the wires B C are inserted from opposite directions, as indicated in Fig. 3, and the projecting short ends *b c* are bent around and under the wires, as shown, to prevent their catching. After the wires are inserted oppositely, the covering and inclosed wires are twisted a greater or less number of times, as may be desired, either as indicated in Fig. 4 or as in Fig. 5.

As will be understood, the joint can be used with insulated wires D, or uninsulated as well.

As constructed according to the views shown in the drawings, and described, the conductivity of the wires is not only not impaired, but is rather increased at the joint, the contact being perfectly made and maintained not only temporarily, but for a long time.

When uncovered wires are united by twisting the ends or by binding them together because of their exposure to air and moisture they soon corrode and spread apart, which breaks the contact at the joint and destroys the conductivity of the wire; but when protected by the covering the contact is preserved indefinitely. The strength of the joint is, moreover, greatly increased, as in twisting the covering the wires are held tightly in the same, and cannot be withdrawn by any force that would be liable to affect the wires when "put up."

One great advantage of the improved joint is the ease and rapidity with which it can be made in putting up the lines, only requiring the insertion of the wires into the covering, and twisting the inserted wires and covering

by ordinary pliers or tools conforming to the shape of the tubes or covering.

This joint is not only applicable for wires employed for electrical purposes, but may be used in uniting cables, wire used in fencing, and in all the variety of ways in which wire is employed where it is necessary to make a joint.

As will be understood, the covering is made of metal sufficiently pliable to be readily twisted, and when applied to electrical purposes is made of metals possessing high conductivity.

In a previous patent granted to me January 1, 1884, No. 291,211, is illustrated a joint for electric wires in which the wires are soldered within a covering; but in the present joint the solder is rendered unnecessary, and a much stronger joint secured at less expense and labor, and for electrical purposes possessing more perfect conductivity.

Having thus described my invention, I wish to claim the following:

1. A joint for uniting electric or other wires, consisting of a covering having longitudinal perforations therein, into which the said wires are inserted oppositely and said covering and the inserted wires twisted, as and for the purposes set forth.

2. A joint for uniting electric or other wires, consisting of a covering composed of two tubes soldered together, into which the said wires are inserted oppositely, and said covering and the inserted wires twisted spirally, for the purposes set forth.

3. A coupling for telegraph or other wires, having therein a series of separate bent or twisted passages formed longitudinally to receive the ends of the wires, for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 9th day of November, 1885.

CHARLES McINTIRE.

Witnesses:
FREDK. F. CAMPBELL,
CHARLES H. PELL.