

No. 91,416.

PATENTED JUNE 15, 1869.

A. CARY.
TELEGRAPH WIRE.

Fig. 1,



Fig. 4,



Fig. 3,



Fig. 2,



Witnesses;
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United States Patent Office.

ALANSON CARY, OF NEW YORK, N. Y., ASSIGNOR TO THE AMERICAN COMPOUND TELEGRAPH-WIRE COMPANY, OF SAME PLACE.

Letters Patent No. 91,416, dated June 15, 1869.

IMPROVEMENT IN TELEGRAPH-WIRE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ALANSON CARY, of the city, county, and State of New York, have invented a new and useful Improvement in Telegraph-Wire; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The nature of this invention relates to improvements in wires to be used for telegraph-purposes, whereby it is designed to improve the quality of the same.

It consists in covering a steel wire with a spiral ribbon of copper, and in protecting and uniting the same by a peculiar method of soldering, as will be herein-after more fully described.

In the drawings—

Figure 1 represents a section of my improved wire in side elevation;

Figure 2 represents a cross-section of steel or iron wire, such as I use for the core;

Figure 3 represents a cross-section of the same provided with the copper ribbon; and

Figure 4 represents a cross-section of the same when in a finished condition.

Similar letters of reference indicate corresponding parts.

Copper is well known to possess the best conducting quality for electrical currents, and copper wires strung upon posts have been used for telegraph purposes.

But as copper has a low degree of tensile strength, the copper telegraph-wires require more numerous supports, and soon become sagged by their own weight, or by the pressure of the wind, or other causes; and experience shows that they ordinarily require more constant attendance and expense for repairs than either iron or steel wires, which are now commonly used.

To obviate the objections heretofore connected with the use of copper for line-wires for telegraphic-purposes, it has been proposed to use a central-supporting core-wire of steel, covered with copper; and in order to construct such compound wires, it has been proposed to draw or roll the same from compound bars composed of the two metals.

It is to be understood, therefore, that I do not claim as my invention the broad idea of making compound conducting-wires.

My invention relates only to the method of making the same.

I take a small iron or steel wire, and coat it with tin, or other suitable metal, either by passing the wire through a hot bath of tin, or effecting the covering in some other suitable manner.

I then take a ribbon of copper, and coil it spirally around the said central wire in a smooth and compact manner, then draw it through a die, to compact the copper; and afterwards I pass it through another bath of tin, or other metal having a sufficient temperature to fuse the tin coating on the core-wire, whereby the said core-wire and the copper ribbon become soldered together, and the exterior folds or edges of the copper ribbon are also filled with tin, and become soldered together, thus adding strength to the wire, preventing the lodgment of foreign matter, or the ingress of moisture.

In some cases, I pass the ribbon of copper through a bath of tin, or other metal, before applying it to the core-wire, and after the copper ribbon has been passed through the bath, I wind it upon the core-wire, as before described; and I then submit the compound wire to heat, either by passing through another bath of tin, or other substance, so as to fuse the tin, and cause the copper to be soldered to the core, and the edges of the ribbon to become united, as herein-before described.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

A telegraph-wire, constructed as herein described, that is to say, having the steel core, and the strip or strips of copper, or other good electric conductor, applied thereto, and soldered in place by means of a bath of tin, substantially as set forth.

ALANSON CARY.

Witnesses:

FRANK BLOCKLEY,
ALEX. F. ROBERTS.