(No Model.)

L. JOHNSON.

COMPOUND ELECTRICAL CONDUCTOR.

No. 288,443. Patented Nov. 13, 1883.

Fig. 1.

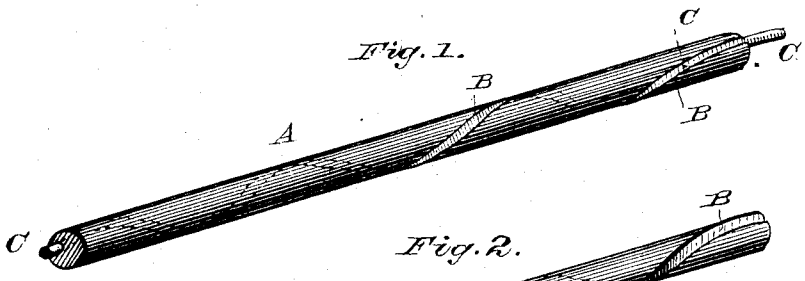


Fig. 2.

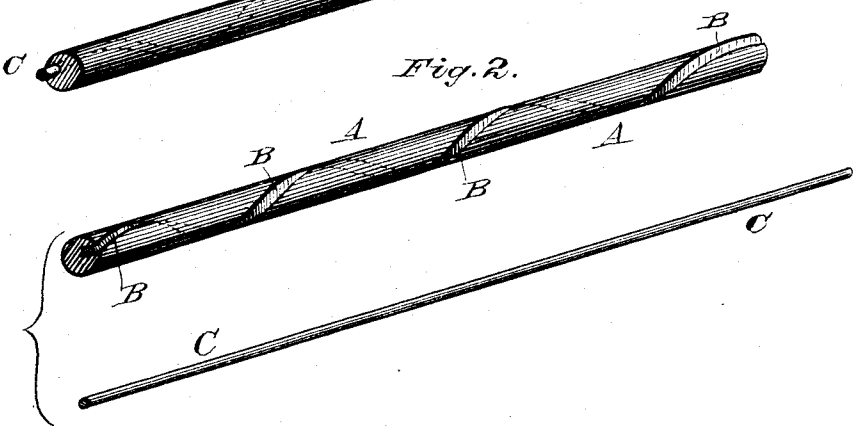
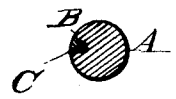


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

LENSON JOHNSON, OF VINCENNES, INDIANA.

COMPOUND ELECTRICAL CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 288,443, dated November 13, 1883.

Application filed April 18, 1883. (No model.)

To all whom it may concern:

Be it known that I, LENSON JOHNSON, of Vincennes, in the county of Knox and State of Indiana, have invented certain new and useful Improvements in Compound Electrical Conductors; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The present invention relates to improvements in the construction of electric conductors, the details of which will be hereinafter fully set forth.

In the drawings, Figure 1 is a perspective view of my improved conductor. Fig. 2 is a detail view, showing the portions of the conductor separated. Fig. 3 is a sectional view. Similar letters denote like parts.

A represents a wire, rod, or cable, of iron, steel, or any of the cheaper conductors, that, while possessing great tensile strength, are of comparatively low conductivity. This wire or cable is used as and constitutes a base or support for a smaller wire or strip of better conducting material—such as copper, platina, or silver; but I prefer to use copper. The said base is channeled or grooved, as shown at B, and in this groove a comparatively small wire or strand, C, of high conductivity, is placed and secured therein by swaging, soldering, twisting, or rolling, the small wire, forming a part of the circumference of the larger wire. Exterior insulation of any well-known kind may be used or not, according to the purpose and position of the conductor.

When constructed as above described, my compound conductor combines the advantages of unusually low resistance where small currents are used, and it is at the same time capable of carrying very large currents without either portion being in any way injured. For instance, the small wire is especially adapted for telephonic or telegraph purposes, while the whole together can carry an electric-lighting current without damage being done to either.

Having described my invention, I claim—

1. The combination of a thin wire of high conductivity with the thick spirally-grooved wire A of lower conductivity, said thin wire being embedded in the groove of the larger wire, and forming a portion of the circumference thereof, substantially as described.

2. The method of manufacturing the above-described electric conductor, which consists in placing a thin wire of high conductivity in a groove cut longitudinally in a thicker wire, rod, or bar of lower conductivity, and closely uniting the two by twisting or rolling them together, substantially as and for the purpose described.

3. As a new article of manufacture, a compound electric conductor formed of a thick wire of low conductivity and a thin wire of high conductivity, said thin wire being embedded in the thick wire and forming a part of the circumference thereof, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

LENSON JOHNSON.

Witnesses:

J. J. ANDERSON,

WM. H. JACKSON.