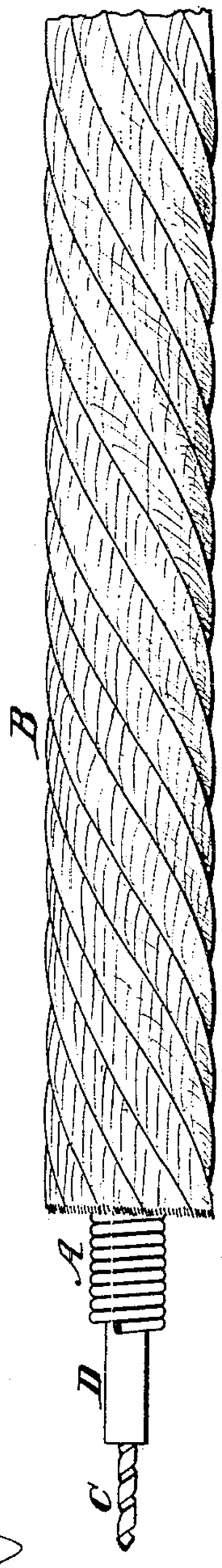
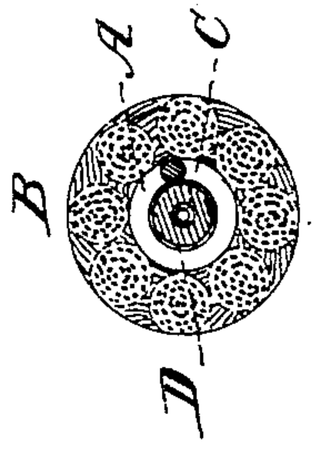
J. MORGAN, A. T. JAY, E. EDWARDS & J. TILSTON.

TELEGRAPHIC CABLE.

No. 34,862. Patented Apr. 1, 1862.


B
A
D
C



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN MORGAN, ALFRED THOMAS JAY, EDMUND EDWARDS, AND JOSEPH TILSTON, OF LONDON, COUNTY OF MIDDLESEX, ENGLAND.

IMPROVEMENT IN TELEGRAPHIC CABLES.

Specification forming part of Letters Patent No. **34,862,** dated April 1, 1862.

To all whom it may concern:

Be it known that we, JOHN MORGAN, ALFRED THOMAS JAY, EDMUND EDWARDS, and JOSEPH TILSTON, all of London, in the county of Middlesex, in that part of the United Kingdom of Great Britain and Ireland, known as England, have invented certain new and useful Improvements in Ropes or Cables for Submarine or other Electric Telegraphs, and for the Rigging of Ships, and for other purposes; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal view of a portion of an electric-telegraph cable constructed according to our invention. Fig. 2 is a transverse section of the same.

Similar letters of reference indicate corresponding parts in both figures.

This invention consists in the arrangement of a spiral coil of wire or ribbon, A, composed of iron or other metal within a covering of rope, B, composed of vegetable fiber, metallic wires, or metallic ribbons in such a manner that the stretch of the rope longitudinally is prevented by the resistance of the internal coiled wire to a transverse strain.

In electric-telegraph cables for submarine and other purposes we take a conducting ribbon or wire, C, of copper or other metal, coiled spirally in such a manner as to allow it to stretch longitudinally to a considerable extent without fracture, and we insulate this ribbon or wire by surrounding it with one or more coatings, D, of pure india-rubber or other elastic insulating material; and we place the ribbon or wire thus insulated within the spiral metallic wire covered by the rope of vegetable fiber, metallic wires, or metallic ribbons above described. The insulated conducting ribbon or wire C is thus prevented from injury through any transverse strain by the spiral coil of wire A which surrounds it while the greater part of any longitudinal strain is borne by the rope B, of vegetable fiber, metallic wires, or metallic ribbons which surround the coil of spiral wire, and the combination of parts described allows great flexibility in the cable.

For the rigging of ships or other purposes where great longitudinal strength is required in the rope without stretching, we use the cable as above described, omitting the internal conducting ribbon or wire, insulated with pure india-rubber or other insulating material.

What we claim as our invention, and desire to secure by Letters Patent, is—

The arrangement of a spiral coil of wire or metal ribbon, A, within a covering of rope, B, substantially as and for the purpose herein specified.

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