(No Model.)

W. JAMIESON.

CONDUCTOR FOR TELEPHONE AND TELEGRAPH PURPOSES.

No. 297,406. Patented Apr. 22, 1884.

Fig. 1.

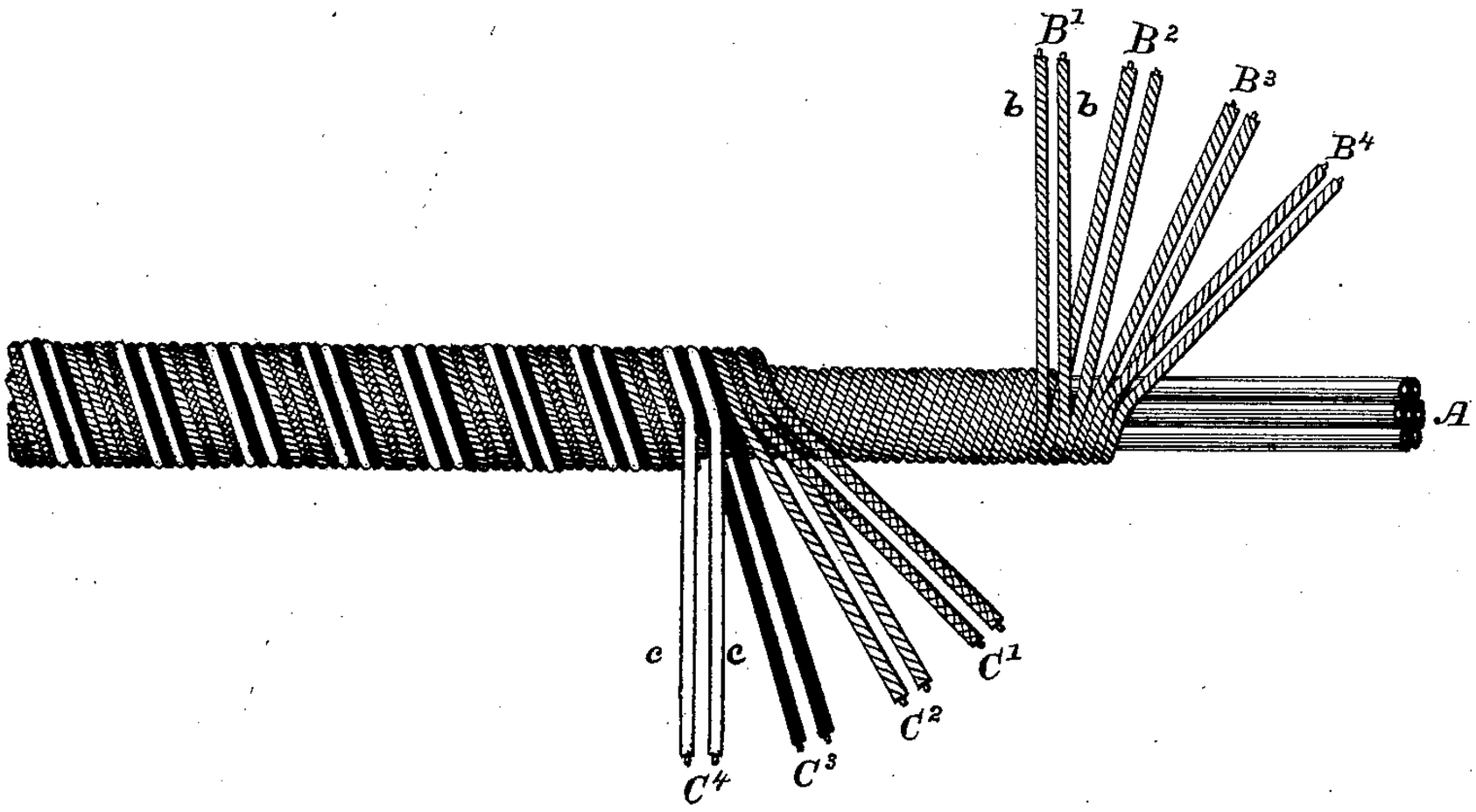
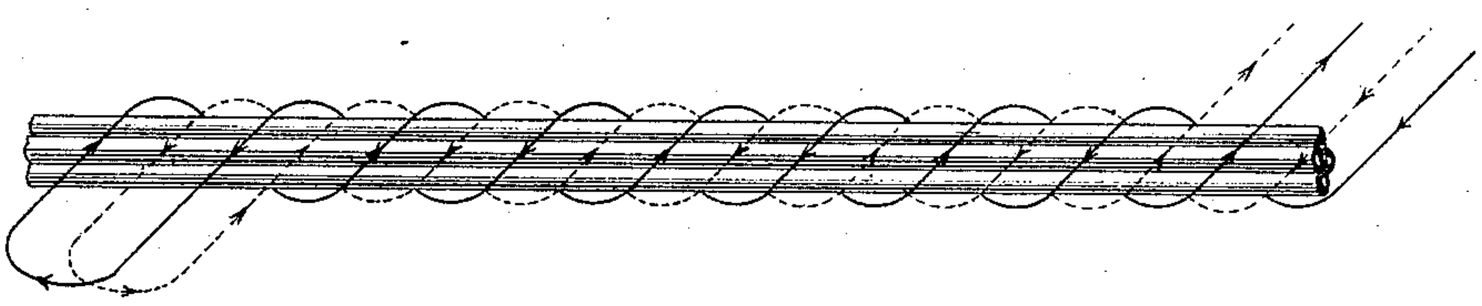


Fig. 2.



WITNESSES

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CONDUCTOR FOR TELEPHONE AND TELEGRAPH PURPOSES.

SPECIFICATION forming part of Letters Patent No. 297,406, dated April 22, 1884.

Application filed February 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JAMIESON, a subject of the Queen of Great Britain, residing in the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Conductors for Telephone and Telegraph Purposes, of which the following is a specification.

The object of my invention is to arrange the conducting-wires of which a telephone or telegraph circuit is formed, in such manner that inductive effects from other wires in their immediate proximity shall be entirely neutralized. In order to effect this result, two or more wires covered, coated, or enveloped with suitable insulating material and wound helically either with or without a core, which core, if used, may be composed of one or more insulated wires suitable for telegraphic purposes and connected with the earth at their terminals. It is not, however, essential that the conductors be wound around a core of parallel wires or their equivalent. They may be wound spirally, so as to constitute an elongated cylinder or tube. They are preferably grouped in pairs for the formation of metallic circuits, the two wires forming each circuit being separated from each other by one or more intervening wires.

The manner of arranging the conducting-wires when several circuits are grouped in one cable is shown in Figure 1 of the accompanying drawings, a diagrammatic view of the method of interweaving and separating the helices being given in Fig. 2.

Referring to the drawings, *b b b* and *c c c* represent two series of insulated conductors, which are wound spirally around a number of parallel insulated wires, A. The conductors *b* are grouped in pairs consisting of alternating wires B', B^2, B^3, and B^4. These wires are wound directly upon the group of insulated wires A, and constitute a layer which is surrounded by a second layer of wires, *c*, wound spirally in an opposite direction and grouped in pairs of long wires C', C^2, C^3, and C^4, in the same manner. The different layers may be composed of a greater or less number of wires *b* and *c*, and the number of layers may be increased, as desired. It is not necessary that alternate wires shall be used in forming a circuit, for any arrangement by which the two wires forming a circuit shall be separated by intervening wires may be employed for accomplishing the desired result. Usually, however, it is desirable to separate the two wires forming a pair by as great a number of intervening wires as is practicable.

I claim as my invention—

1. A telephone or telegraph cable in which the conducting-wires are helically wound and grouped in pairs for the formation of metallic circuits, the two wires forming each circuit being separated from each other by one or more intervening wires, substantially as described.

2. A telephone or telegraph cable consisting in the combination, substantially as hereinbefore set forth, of conducting-wires helically wound and grouped in pairs for the formation of metallic circuits, the two wires forming each circuit being separated from each other by one or more intervening wires, and a conducting-core consisting of one or more parallel insulated wires.

In testimony whereof I have hereunto subscribed my name this 14th day of February, A. D. 1884.

WILLIAM JAMIESON.

Witnesses:
DANL. W. EDGECOMB,
CHARLES A. TERRY.