(No Model.)

W. H. SAWYER.

ELECTRIC CABLE.

No. 473,351. Patented Apr. 19, 1892.

Fig. 1.

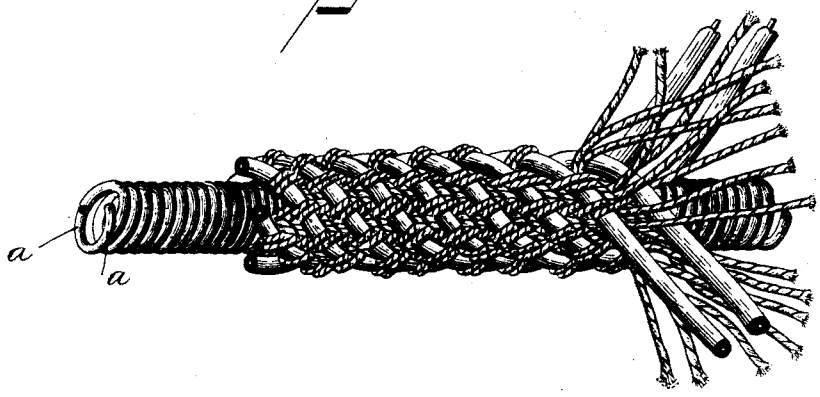
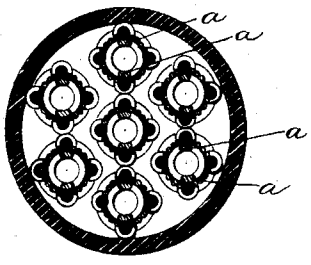


Fig. 2.



WITNESSES
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WILLIAM H. SAWYER, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO THE AMERICAN ELECTRICAL WORKS, OF SAME PLACE.

ELECTRIC CABLE.

SPECIFICATION forming part of Letters Patent No. 473,351, dated April 19, 1892.

Application filed October 27, 1891. Serial No. 410,011. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. SAWYER, a citizen of the United States, and a resident of Providence, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Electric Cables; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

It is well known that when the wires of a metallic circuit are kept equidistant from any disturbing electrical influence, or when such wires are not running parallel with others, together with the greatest amount of separation, the best results are obtained.

The object of my present invention is to provide an electric cable which is especially designed for telephone and telegraph service and wherein the wires of each metallic circuit are maintained at approximate equidistances, thereby avoiding parallelism, and wherein the greatest separation of the wires or conductors in the smallest space is attained, perfect insulation provided, and the construction generally being such as to secure the lowest possible specific inductive capacity.

To the above ends my invention consists of an electric cable of the character described wherein the central core or foundation is composed of the insulated wires of one metallic circuit being wound or twisted spirally together to form a flexible tube having a central air-space throughout the same, and upon said tube or core are superimposed the wires of one or more metallic circuits, which are spirally interbraided or woven with suitable fibrous material thereon, the wires of each metallic circuit being approximately equidistant and the interbraided superimposed wires being wound or coiled in a reverse direction to those of said central tube or core.

My invention consists, further, in grouping a number of sections formed as above described into a cable and inclosing the same in a lead sheath or other suitable covering, all as will be hereinafter fully described, and specifically designated in the claims.

In the accompanying drawings, Figure 1 represents a perspective view of one of the sections of the cable, and Fig. 2 a transverse section of the completed cable.

Similar letters of reference indicate like parts in both figures of the drawings.

In carrying out my invention the two insulated wires or conductors *a* forming one metallic circuit are coiled spirally together to provide a central flexible tube or core having a central air-space extending throughout the body of the same. Upon the core or foundation thus provided are superimposed the insulated wires of one or more metallic circuits, which is accomplished by interbraiding said wires with a suitable fibrous material tubularly around said flexible core or foundation, the wires of the superimposed series being interbraided spirally in a reverse direction to the wires of the coils composing the flexible tube or core and all of the wires being located at an approximately equidistance and insulated from each other not only by the interbraided fibrous material, but also by air contained in the interstices of the same, thereby producing a cable wherein all the wires are of low static capacity and high insulation. A suitable number of sections formed as above described are then grouped together and inclosed within a lead sheath or other suitable covering to produce the complete cable.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is—

1. An electric cable composed of a flexible tube or core formed of the two wires of a metallic circuit coiled spirally together and the wires of one or more metallic circuits interbraided with fibrous material upon said flexible tube or core, substantially as specified.

2. In an electric cable, the combination of a number of sections, each composed of a flexible tube or core formed of two wires of a metallic circuit coiled spirally together, a successive series of metallic circuits interbraided with fibrous material upon said tube or core, and an inclosing sheath or other suitable covering, substantially as specified.

In testimony whereof I affix my signature in presence of two subscribing witnesses.

WILLIAM H. SAWYER. [L. S.]

Witnesses:
GILMAN E. JOPP,
CHAS. R. REMINGTON, Jr.