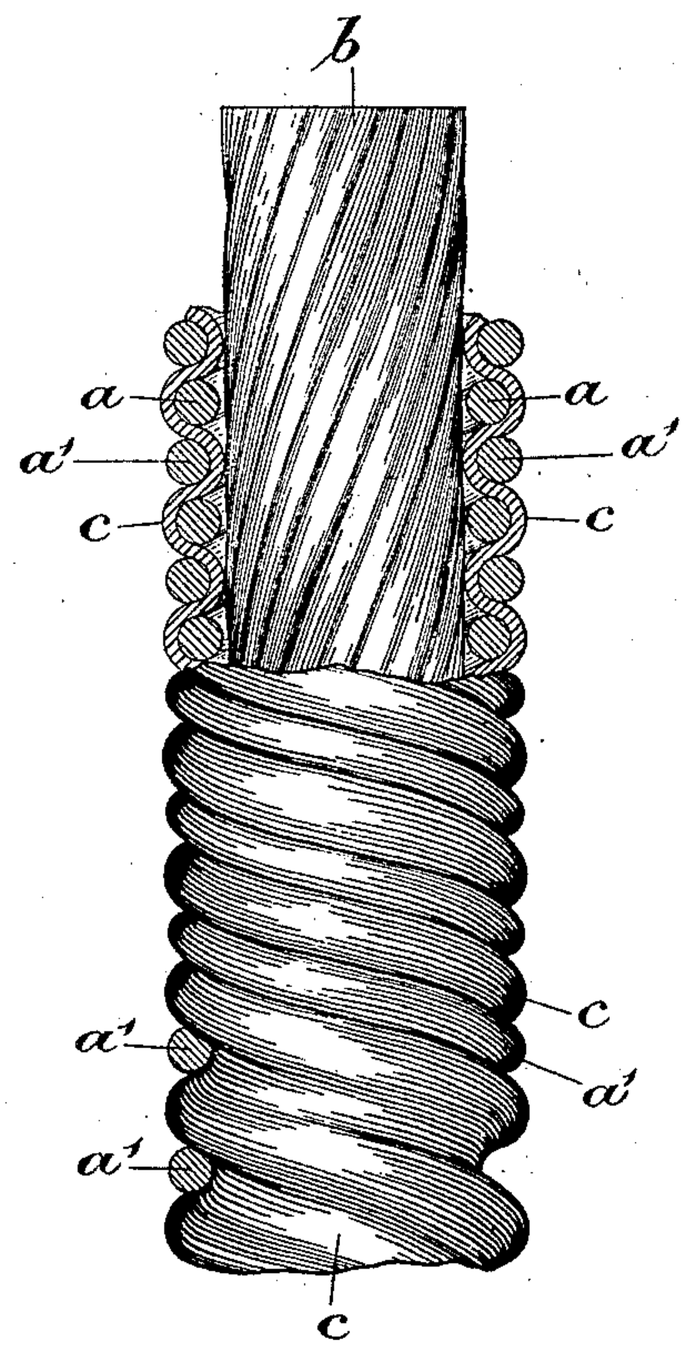
(No Model.)

M. GUILLEAUME.

INSULATED ELECTRIC CABLE.

No. 568,756. Patented Oct. 6, 1896.



Witnesses.
Georg Müller.
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UNITED STATES PATENT OFFICE.

MAX GUILLEAUME, OF MÜLHEIM-ON-THE-RHINE, GERMANY.

INSULATED ELECTRIC CABLE.

SPECIFICATION forming part of Letters Patent No. 568,756, dated October 6, 1896.

Application filed November 25, 1895. Serial No. 570,083. (No model.) Patented in England August 22, 1895, No. 15,826; in Germany August 23, 1895, No. 85,221; in Belgium October 17, 1895, No. 117,920; in Hungary November 25, 1895, No. 4,627, and in Austria January 6, 1896, 46/33.

To all whom it may concern:

Be it known that I, MAX GUILLEAUME, a subject of the German Emperor, residing at Mülheim-on-the-Rhine, in the German Empire, have invented new and useful Improvements in the Insulation of Electric Cables, (in respect whereof I have caused a patent to be applied for but not yet obtained in Great Britain, to bear date August 22, 1895, No. 15,826, and in respect whereof I have obtained a patent in Germany, dated August 23, 1895, No. 85,221; in Belgium, dated October 17, 1895, No. 117,920; in Hungary, dated November 25, 1895, No. 4,627, and in Austria, dated January 6, 1896, No. 46/33,) of which the following is a specification.

This invention relates to electric cables, and is designed to secure flexibility in the insulation of the conductor and thus to provide against rupture of the insulation when the cable is bent.

A cable or conductor insulated according to the present invention is represented in the accompanying drawing, the insulating material being shown partly in elevation and partly in longitudinal section.

Strips, bands, or cords *a*, of fiber, such as cotton, wool, hemp, or jute, are first wound round the conductor *b* in such a manner that regular intervals of space are left between the convolutions. About the strip-furnished conductor is laid a covering of insulating material *c*, consisting of paper, which may be in one or more thicknesses, or analogous insulating substance. A secondary winding of strips, bands, or cords *a'*, of fiber, is then applied outside the insulating material *c*, the convolutions of this winding, together with the portions of the insulating material overlaid by them, occupying the spaces between the convolutions of the original winding. By this method of construction the insulating material becomes corrugated spirally, flexibility being thereby secured.

In the actual manufacture of a cable according to this invention the two windings of fibrous material *a a'* and the intervening covering of paper *c* or other insulating substance are laid about the conductor *b* simultaneously and, if desired, concurrently with the manufacture of the conductor itself.

When such a cable is subjected to flexure, the insulation on the inner side of the bent portion packs closer, while that on the outer side, owing to its corrugated form, is capable of adapting itself to the increased length.

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

1. In an electric cable, the combination, with the conductor *b*, of the inner and outer windings *a a'* of fibrous material and the intervening serving of insulating material *c* arranged inside and outside alternate convolutions of the windings *a a'*, substantially as and for the purpose set forth.

2. An electric cable or conductor furnished with insulating material arranged inside and outside alternate convolutions of windings of fibrous material.

MAX GUILLEAUME.

Witnesses:
MARIA NAGEL,
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