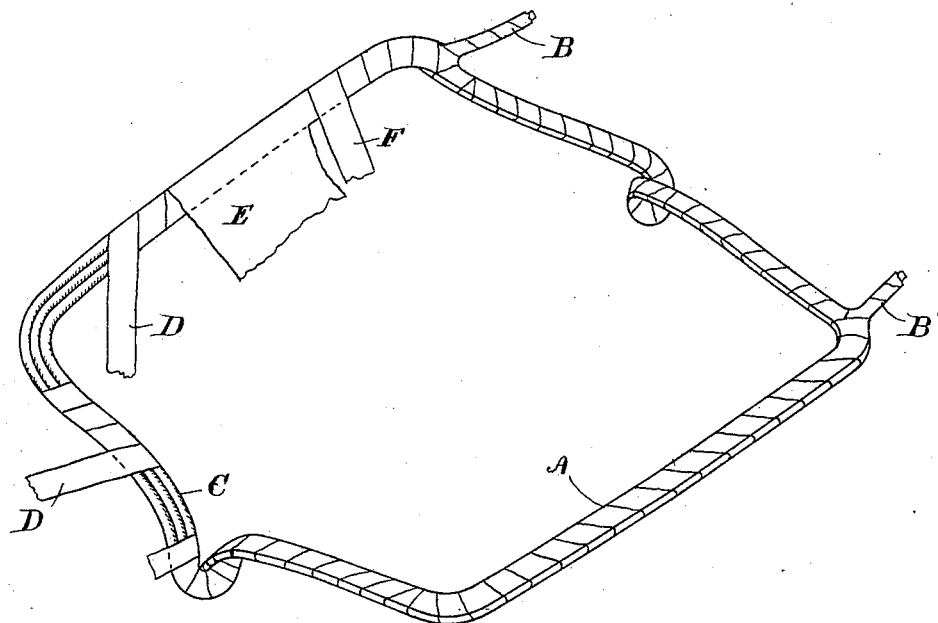


(No Model.)

J. H. SHUGG.
INSULATED ARMATURE COIL.

No. 522,859.

Patented July 10, 1894.



WITNESSES.

A. F. Macdonald.

J. Johnston.

INVENTOR.

John H. Shugg, by
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Atty.

UNITED STATES PATENT OFFICE.

JOHN H. SHUGG, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE GENERAL ELECTRIC COMPANY, OF NEW YORK.

INSULATED ARMATURE-COIL.

SPECIFICATION forming part of Letters Patent No. 522,859, dated July 10, 1894.

Application filed April 21, 1894. Serial No. 508,402. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. SHUGG, a citizen of the United States, residing at Boston, county of Suffolk, and State of Massachusetts, have invented certain new and useful Improvements in Insulating Armature-Coils, of which the following is a specification.

My invention relates to the insulation of the coils of armatures for dynamo-electric machines or motors, particularly to the machine-made coils now often employed in such constructions. In armatures employing such coils, the core is generally slotted to admit of the reception of part of the coil and to avoid the necessity for any projections or driving horns for the coils, as well as for the magnetic effect. In many cases, these slots have been insulated from the body of the coil by any appropriate insulating substance, such as mica or leatheroid, upon and within the slot itself. This construction is somewhat undesirable, because it renders it difficult to insert the coil without distorting the insulation or impairing it more or less. I therefore prefer to insulate the coil itself, irrespective of any insulation that may be applied to the slot, so that it shall be thoroughly protected against accidental short circuit. To this end I first form my coil by any of the now well known mechanical processes, such as those illustrated in the patent to Elihu Thomson, No. 503,445, issued August 15, 1893, and to John B. Blood, No. 503,449, issued August 15, 1893, although I do not limit myself to this precise method; after the coil is formed, it is immediately wrapped with a single layer of tape, which binds its wires closely together, forming it into an integral construction easy to manage and further manipulate. I then preferably apply shellac or Japan varnish to this tape, although this is not imperative. After this I wrap the coil in oiled linen, and upon the oiled linen I wrap a further binding of tape, securing the linen in place firmly and pro-

tecting it against mechanical injury. The whole coil is then dipped in or painted with shellac or Japan varnish, and after being dried, is ready for use. I thus form a coil which is thoroughly insulated, and which can be handled as if it were composed of a single wire, no matter how many turns may enter into its construction; and at the same time it may be bent or distorted to accommodate it to the shape of the armature without danger of impairing the insulation.

An embodiment of my invention is illustrated in the accompanying drawing, in which—

A is the coil, B, B' are the terminals thereof, C the wires composing the coil, D the first wrapping of linen tape bindings such wires together, E the layer of oiled linen, and F the final wrapping.

I do not mean to limit myself to the precise details here shown, as the coil might be of other shapes without affecting the scope of my invention, and one or more layers of tape may be used, depending upon the potential of the current in the armature in which the coil is to be employed.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. As a new article of manufacture an electric coil the conductors of which are bound together and insulated by two layers of tape between which is interposed an oiled fabric.

2. As a new article of manufacture, a coil for the armature of a dynamo electric machine or motor, the wires of which are bound together with tape, and insulated with a layer of oiled linen and an outside wrapping of tape impregnated with an insulating varnish.

In witness whereof I have hereunto set my hand this 20th day of April, 1894.

JOHN H. SHUGG.

Witnesses:

JOHN W. GIBBONEY,
CLARA E. GOODWIN.