No. 865,707. PATENTED SEPT. 10, 1907.

E. W. JODREY.

SELF SUSTAINING FIELD MAGNET COIL.

APPLICATION FILED DEC. 28, 1906.

Fig. 1.

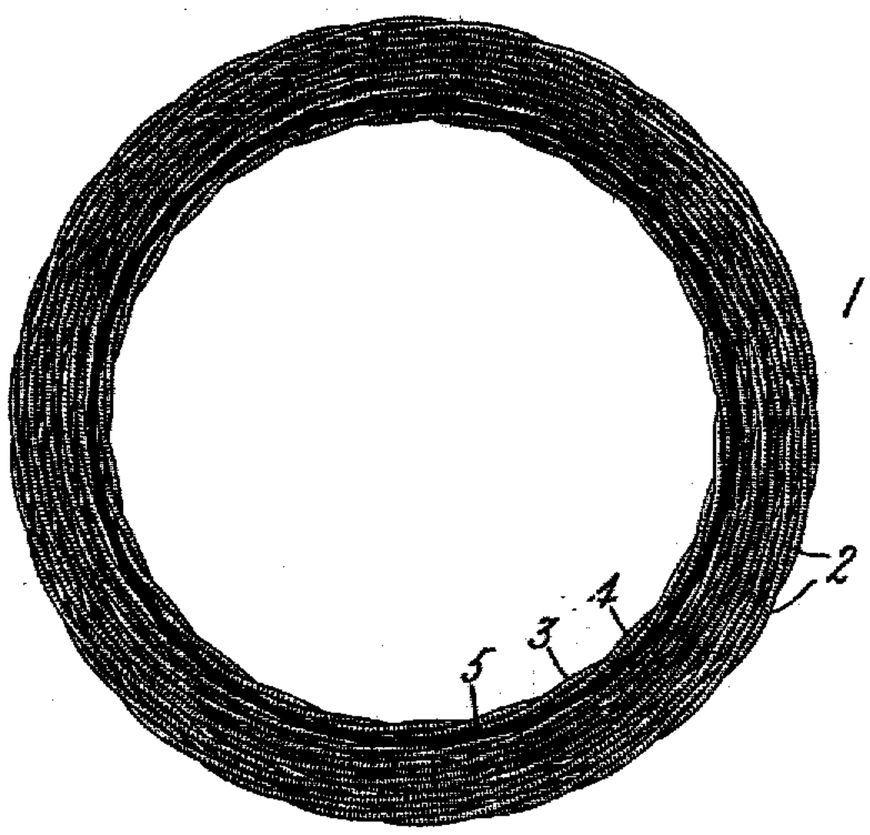
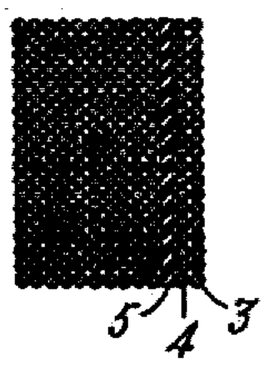


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

ELBERT W. JODREY, OF LYNN, MASSACHUSETTS, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

SELF-SUSTAINING FIELD-MAGNET COIL.

No. 865,707. Specification of Letters Patent. Patented Sept. 10, 1907.

Application filed December 28, 1906. Serial No. 349,793.

To all whom it may concern:

Be it known that I, ELBERT W. JODREY, a citizen of the United States, residing at Lynn, county of Essex, State of Massachusetts, have invented certain new and useful Improvements in Self-Sustaining Field-Magnet Coils, of which the following is a specification.

It is desirable for a variety of purposes to make use of wire coils wound in the form of rings each composed of a number of concentric layers; the whole being compact in form and self-sustaining so as to avoid the use of a spool, or the like. Coils made of very fine wire can be wound on a universal winding machine so that they will retain their shape unless they are subjected to rough usage. Where coarser wire is employed, however, it has been found that the inner layers fail to hold together, but spread and render the coil useless.

The object of my invention is to effectively prevent such loosening and spreading of the inner layers or turns in a simple and cheap manner and without adding to the size of the completed coils. To this end, after the first layer or two of the coil is wound in place I insert a thin strip of paper or the like and secure it in position by shellacing or some similar means; the rest of the coil being then wound up in the usual way.

For a full understanding of my invention reference is to be had to the following detailed description taken in connection with the accompanying drawing wherein

Figure 1 is a plan view of a coil embodying the present invention; and Fig. 2 is a cross-section through said coil.

Referring to the drawing, 1 represents a coil adapted for use as the field magnet coil of small motors such as fan motors. The coil consists of a number of layers of coarse insulated wire 2 wound in a universal winding machine into the form of a ring rectangular in cross-section. Ordinarily a coil of this type is not self-sustaining since the turns spread on the inner diameter and become loose. In accordance with my invention, in forming the coil, the first two layers 3 and 4 are made in the usual manner and then a thin binder 5, consisting of a strip of paper, fabric, or the like, is secured to these layers as by means of shellac; the coil is then completed by winding on the remaining layers. Coils made in this manner are entirely self-sustaining and offer no tendency to spread.

The thickness of the binder is much exaggerated in the drawing in order to make the drawing more intelligible: in actual practice, however, the binder is made so thin that the transverse dimension of the coil is not appreciably increased. I prefer to use thin, tough paper for the binder, since it is cheap and is easily worked. By reason of the location of the binder within the body of the coil, it is protected against injury and need only be made of material which will withstand the slight stresses exerted by the coils.

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

1. A self-sustaining universally-wound wire coil comprising a plurality of concentric layers wound one directly upon the other and having a thin binding strip secured between the first few inner layers and the remaining layers.

2. A self-sustaining universally-wound wire coil made up of a number of concentric layers wound one directly upon the other and having a thin layer of paper secured between the first few inner layers and the remaining layers.

3. The method of producing a self-sustaining universally-wound wire coil which consists in winding a few layers, securing a strip of paper about said layers, and then winding on the remaining layers.

In witness whereof, I have hereunto set my hand this twenty sixth day of December, 1906.

ELBERT W. JODREY.

Witnesses:

JOHN A. MCMANUS, JR.,

HENRY O. WESTENDARP.