No. 756,954. PATENTED APR. 12, 1904.

H. GEISENHÖNER.

MAGNET COIL SPOOL.

APPLICATION FILED SEPT. 13, 1902.

NO MODEL.

Fig. 1.

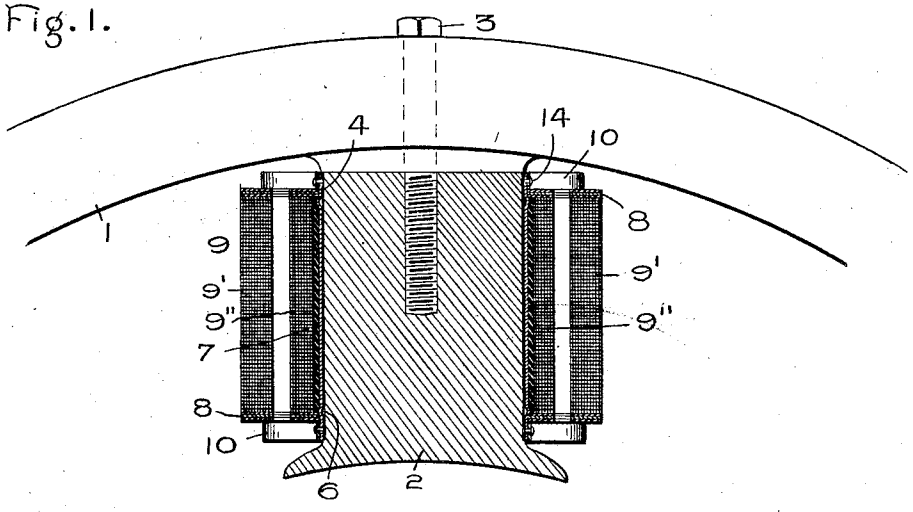


Fig. 2.

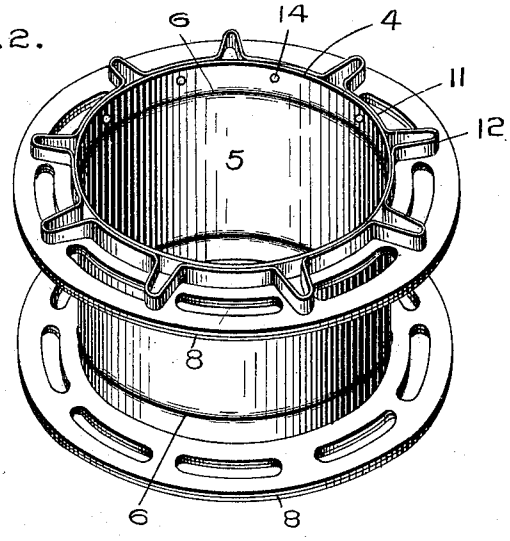
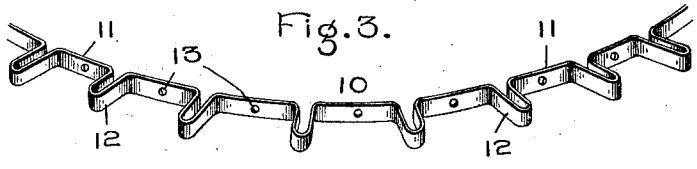


Fig. 3.



Witnesses:
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 756,954. Patented April 12, 1904.

UNITED STATES PATENT OFFICE.

HENRY GEISENHÖNER, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

MAGNET-COIL SPOOL.

SPECIFICATION forming part of Letters Patent No. 756,954, dated April 12, 1904.

Application filed September 13, 1902. Serial No. 123,307. (No model.)

To all whom it may concern:

Be it known that I, HENRY GEISENHÖNER, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Magnet-Coil Spools, of which the following is a specification.

My invention relates to spools for receiving the coils of electromagnets, such as the field-coils of dynamo-electric machines.

The object of my invention is the production of a spool of good construction and of light weight which can be cheaply made in various sizes.

My invention consists in certain features of construction, which will be more fully pointed out in the annexed claims.

Figure 1 shows a portion of the field of a dynamo-electric machine, the spool coil and core being shown in section. Fig. 2 is a perspective view showing the spool with the end insulating-rings in place, while Fig. 3 is a perspective view showing a portion of the strip from which the end retaining members are made.

At 1 I have conventionally shown the yoke of a dynamo-electric machine, to which a core or pole-piece 2 of the usual form is secured by a bolt 3. Surrounding the pole-piece 2 is a spool 4, which carries the winding 9. The spool-body proper is a tubular shell 5, which is made out of sheet metal, and may be formed by bending a strip of sheet metal over a former, overlapping the ends and riveting them together. Adjacent to each end of the spool-body a circumferential spacing-bead 6 may be formed, if desired. Surrounding the metal shell is a layer of insulation 7, and abutting against the ends of this layer of insulation 7 are rings or washers 8, made out of insulating material. Between the washers 8 and surrounding the insulating-layer 7 is placed the winding 9. This winding is shown as made of two sections or layers 9′ and 9″, separated by spacing-blocks, so as to form an air-space between the two sections of the winding. The spacing-blocks are not shown in the drawings. The rings or washers 8 are provided with elongated perforations, which are adjacent to the space between the sections of the winding.

Members 10 are secured at the ends of the spools for retaining the winding and insulating-rings in place. Heretofore it has been common to employ for this purpose members of cast-iron riveted to the spool. This, while a good construction, is open to several objections. The retaining members being made of cast-iron are comparatively heavy, and new patterns are required for each different size and style of coil, and as the members are usually of malleable iron they are quite expensive. I have therefore devised a means of doing away with this cast-iron construction. The manner in which I have proceeded for this purpose has been to prepare a strip or bar of wrought-iron, steel, or other bendable metal with portions 11 and connecting intermediate loop portions 12, which are substantially at right angles to the portions 11. Holes 13 are punched in the portions 11. A suitable length is cut off of this strip and is then bent around the body of the spool and riveted to it by means of rivets 14, which pass through the rivet-holes 13. The loop portions 12 form fingers or spokes against which the washers 8 abut. The portions 11 may be curved when the strips are made and then fitted to the spool or they may be made straight and curved when fitted to the spool. The strips may be punched and bent at the same operation, and if several different sizes are kept in stock spools of different sizes and styles may be made by selecting the bent strips in stock which are best suited thereto and cutting off suitable lengths.

My invention is of especial utility in connection with the ventilated winding shown, as it is of comparatively small dimensions, and hence does not obstruct in any manner the air-passages.

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

1. As an article of manufacture, a coil-spool comprising a cylindrical body of sheet metal, and end retaining devices formed out of corrugated metal bars or strips.

2. A coil-spool comprising a body member

and end retaining members secured thereto, the said retaining members having portions curved to fit the body portion and intermediate portions looped to form fingers.

3. A coil-spool comprising a body member and an end retaining member, said end retaining member being formed out of corrugated metal.

4. A coil-spool comprising a body member, and an end retaining member formed out of a corrugated bar of bendable metal.

In witness whereof I have hereunto set my hand this 12th day of September, 1902.

HENRY GEISENHÖNER.

Witnesses:
EDWARD WILLIAMS, Jr.,
HELEN ORFORD.