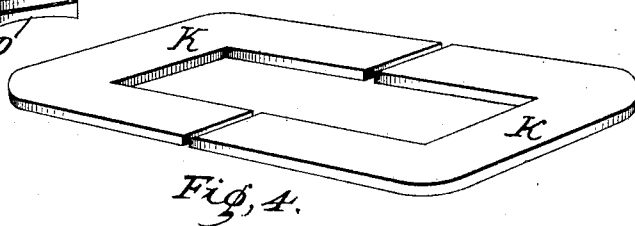
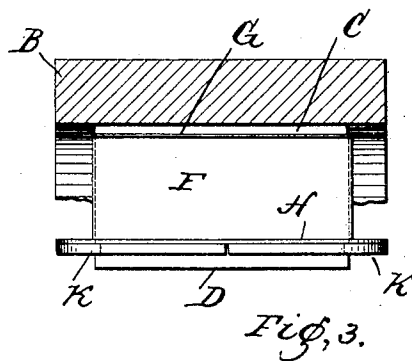
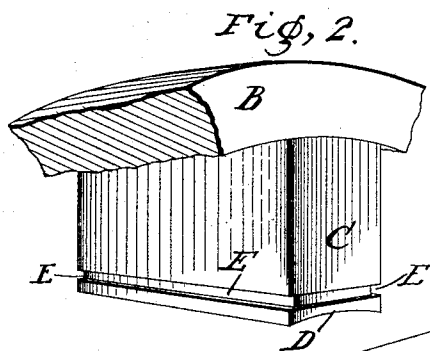
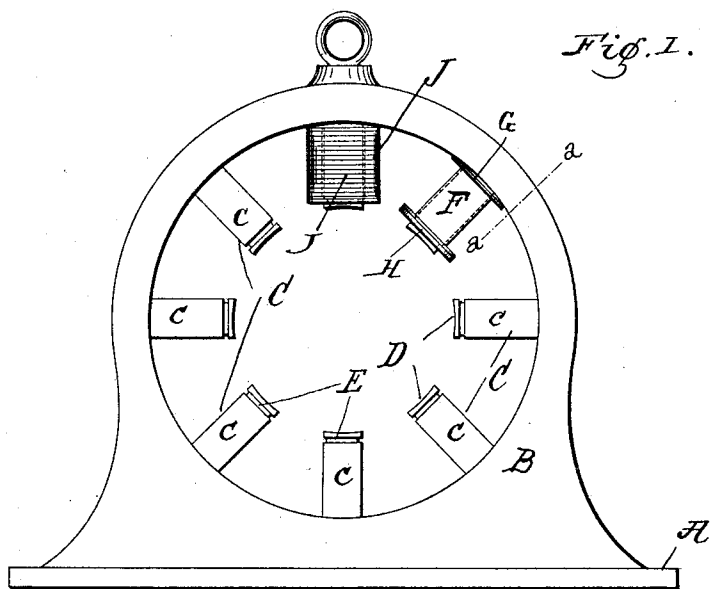


(No Model.)

C. E. KAMMEYER.
FIELD MAGNET FOR DYNAMOS OR MOTORS.

No. 464,027.

Patented Dec. 1, 1891.



Witnesses:
Charles F. Chapman.
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UNITED STATES PATENT OFFICE.

CARL E. KAMMEYER, OF EAU CLAIRE, WISCONSIN.

FIELD-MAGNET FOR DYNAMOS OR MOTORS.

SPECIFICATION forming part of Letters Patent No. 464,027, dated December 1, 1891.

Application filed May 9, 1891. Serial No. 392,144. (No model.)

To all whom it may concern:

Be it known that I, CARL E. KAMMEYER, a citizen of the United States, residing at Eau Claire, in the county of Eau Claire, State of Wisconsin, have invented a new and useful Improvement in Dynamos, of which the following is a full, clear, and exact specification.

My invention relates to dynamos, and particularly the field-magnets therefor, and has for its object to provide a cheap, simple, and convenient device for retaining the magnetizing-coils in connection with such field-magnets, and also to facilitate their removal and substitution, if necessary.

My invention relates, particularly, to multipolar field-magnets, though it is applicable to others. It is illustrated in the accompanying drawings, wherein—

Figure 1 is an elevation of a field-magnet. Fig. 2 is an enlarged detail view of a part. Fig. 3 is a cross-section on the line *a a* of Fig. 1. Fig. 4 is a detail of the washers.

Like parts are indicated by the same letters in all figures.

A is the bed-plate or body, upon which is supported the upwardly ring-shaped portion B, provided with the inwardly-projecting radial field-magnet cores C C. Each of these cores is inwardly concave at D and provided with the groove E about it near its inward extremity.

F is a spool adapted to be slipped upon the core C and provided with a flange G and flange H, between which the windings J of the spool are disposed. This spool is of such length as that its flange H is even when in position with the adjacent edge of the groove E.

K K are horseshoe-shaped washers adapted to slip snugly in the groove E, and they are of such size as to register with the outer edge of the flange H when in position.

I do not limit myself to any particular form or shape of plates, washers, spools, magnets, or the like, as it is evident that the means for placing and removably securing in place the coils upon the field-magnet cores may be greatly varied without departing from the spirit of my invention.

The use and operation of my invention are as follows: Assuming that it is to be applied to a field-magnet substantially similar to that shown, I provide the field-magnet with the inwardly-projecting core-piece, as indicated. The groove E need not, of course, be finely finished, though that could be done,

if desired, in any case. The spools are made of any proper sheet metal and of the proper size to fit over the core, as above indicated. These spools are placed in the lathe and wound with the suitable wire. A spool is then slipped upon each of the radial cores. To secure this spool in position we now move toward each other from opposite sides two of the horseshoe-shaped washers, they being forced firmly into the groove. By this means the spool carrying the conductor-wire is firmly fixed upon its field-magnet core, and if it becomes necessary to remove the same for re-winding or for the purpose of putting in other spools with different windings it is easily done by slipping out the washer and removing the spool.

I claim—

1. A field-magnet provided with core-pieces, each core provided with a groove to receive a coil-retaining washer.

2. The combination of a field-magnet body with a series of cores thereon, each of said cores grooved, a series of coils, one on each core, and a series of washers in such grooves to retain the coils in position.

3. The combination of a field-magnet mass with a series of cores projecting therefrom, each of said cores provided with a groove, a series of spools, a coil on each spool and a spool on each core, and a series of washers adapted to engage said grooves, and thus to secure the spools in position.

4. The combination of a field-magnet, a ring with a series of inwardly-projecting radial cores provided each with a groove about its extremity, a series of removable spools, one for each core, a series of coils, one on each spool, and a series of washers adapted to be forced into such grooves, and thus to hold the spools and coils in position on the cores.

5. The combination of a field-magnet, a ring with a series of inwardly-projecting radial cores provided each with a groove about its extremity, a series of removable spools, one for each core, a series of coils, one on each spool, and a series of washers adapted to be forced into such grooves, and thus to hold the spools and coils in position on the cores, said washers consisting of U-shaped pieces about one-half the width of such core-piece.

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Witnesses:

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