(No Model.)

M. A. MÜLLER.

ARMATURE FOR DYNAMOS.

No. 381,636. Patented Apr. 24, 1888.

Fig. 2.

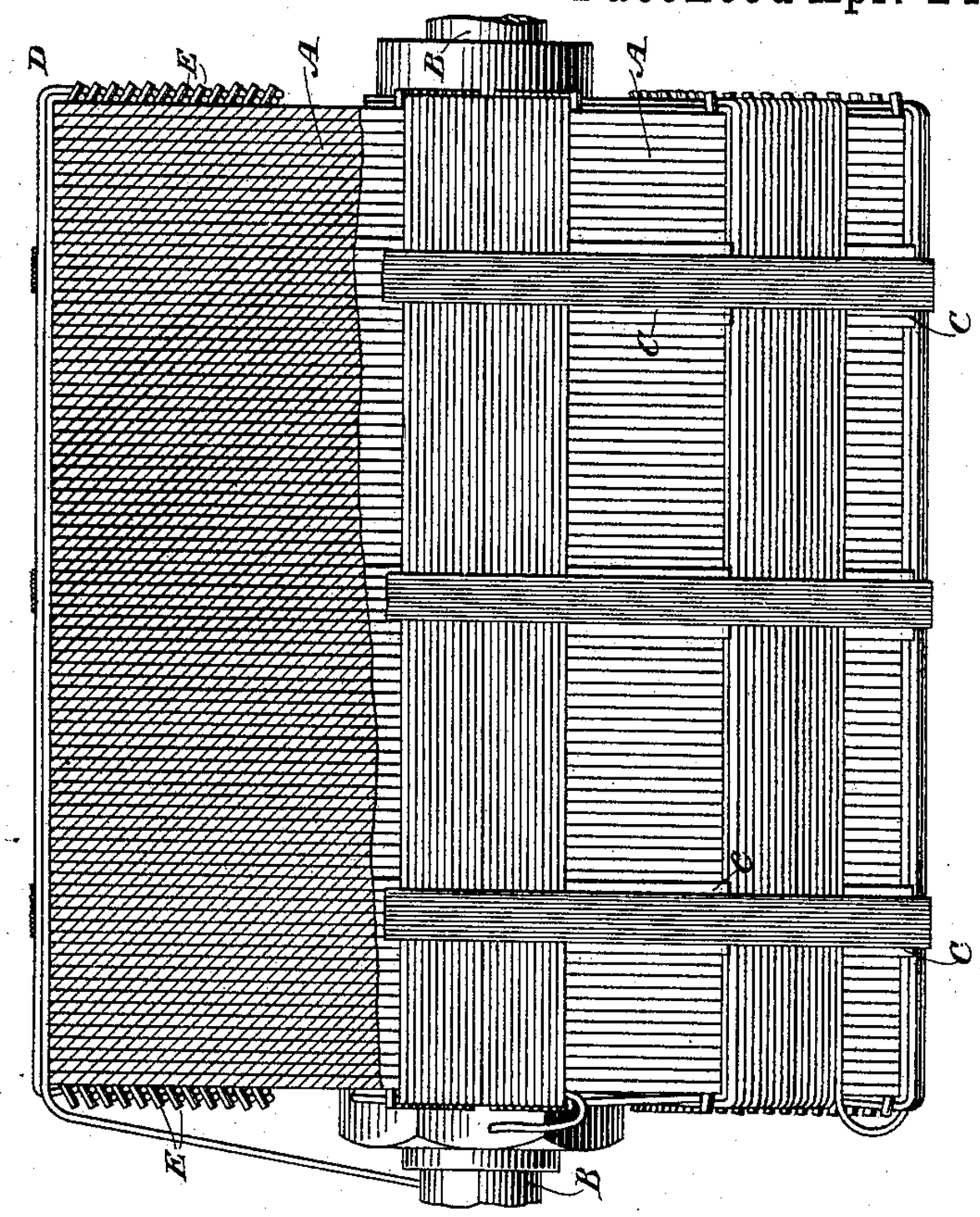


Fig. 1.

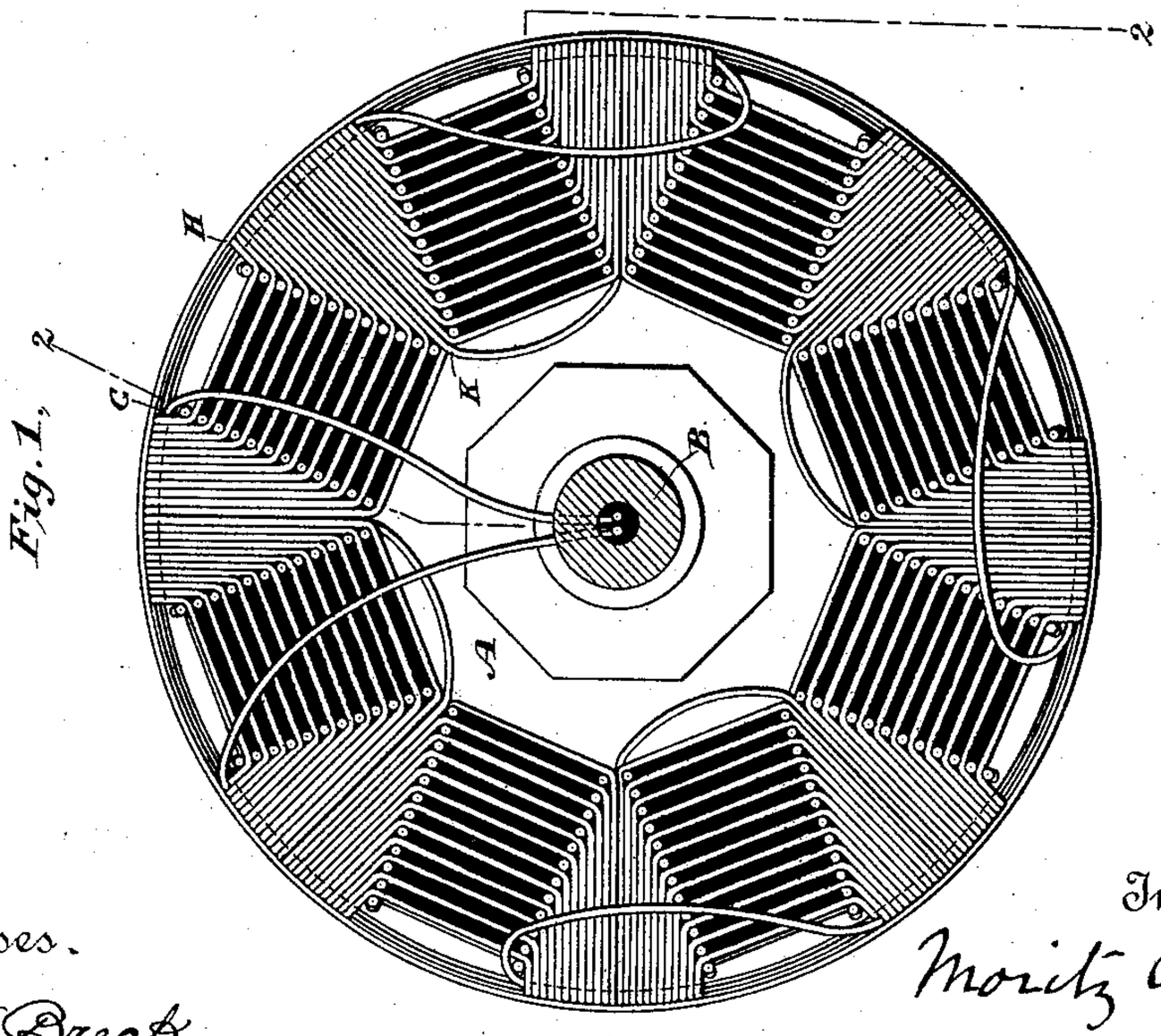
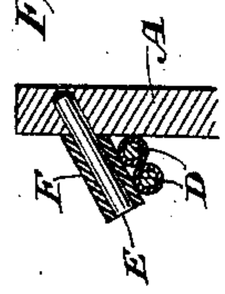


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

MORITZ A. MÜLLER, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE UNITED STATES ELECTRIC LIGHTING COMPANY, OF NEW YORK, N. Y.

ARMATURE FOR DYNAMOS.

SPECIFICATION forming part of Letters Patent No. 381,636, dated April 24, 1888.

Application filed October 17, 1887. Serial No. 252,513. (No model.)

To all whom it may concern:

Be it known that I, MORITZ A. MÜLLER, a citizen of the United States, residing in Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Dynamo or Magneto Electric Machines, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

My invention is an improvement in the armature of a magneto-electric machine for developing alternating currents designed by John F. Kelly, and made the subject of an application for patent of even date herewith.

The machine referred to has a cylindrical armature mounted to rotate in a magnetic field produced by a number of poles, the construction in these respects being similar to other well-known forms of machine. The conductors or coils, in lieu of being wound in line with the axis of the core and diametrically across the ends of the same, are wound from one coil-space to that next adjacent, being carried under or through stops or guides at the ends of the core. These stops are in rows or series, and consist of wooden strips or slats with serrations or notches cut in them, and each notch contains but one or two convolutions, so that the coils are spread out over the ends of the core and separated to some extent, thus accomplishing two desirable objects—to shorten the length of the armature and to better insulate the wires.

My improvement consists in substituting for the wooden slats or strips rows of insulated steel pins or plugs, which are driven into holes in the end plates of the core.

The details of the said improvements are illustrated in the accompanying drawings.

Figure 1 is an end view of an armature embodying my improvements. Fig. 2 is a side elevation of the same. Fig. 3 is a detailed view in section of one of the pins or plugs.

Referring to the drawings, A is a cylindrical core, formed usually of a number of iron disks or plates insulated by sheets of paper. The plates are strung on a shaft, B, and properly secured. The core may be recessed longitudinally for the reception of the coils; but I prefer to use a nearly plain cylinder containing a few plates formed with polar projections, and these are grouped at intervals, so that their polar projections will serve as guides to maintain the coils in place and to assist in winding. Plates provided with slight polar projections between the coils are shown at C C.

In the present case the armature is wound with eight coils. In practice each coil is wound separately and then connected up in series and to the collector-rings. To prepare the core for the winding, I drill lines or series of holes in the end plates, the lines converging from the edges of the said plates at the coil-spaces toward the shaft, as shown in Fig. 1. I then drive into these holes steel plugs or pins E, preferably inclined toward the axis of the core. The projecting ends of these pins are coated or covered with an insulating material—as, for example, with sleeves or caps F of vulcanite, hard rubber, or the like, applied either before or after the pins are driven in. The first coil is then formed by winding the insulated wire D, beginning at G, along the core and under the upper pair of pins at the opposite end of the core, and then back to H. It is then carried under the upper pair of pins between H and G, and in the same way through the second pair of pins at each end of the core, and so on until the coil is complete, its end being at K. Instead of carrying the wire but once under each pin, it is obvious that it may be so carried two or three times, either to form convolutions superposed or side by side. I prefer to wind the conductor twice around each pin and form superposed convolutions. When all the coils are thus formed, they are connected up end to end in such manner that the currents developed will be in the same direction in all the coils at any given time. The proper ends of two adjacent coils are carried through the shaft B to two insulated metal rings, which form the terminals on the collector, as in ordinary alternating-current machines.

What I claim is—

1. The combination, with the cylindrical armature-core of a magneto or dynamo electric machine, of rows or series of insulated pins or plugs inserted in the ends of the core, substantially as described, and insulated conductors wound longitudinally upon the core and around the said pins or plugs, as set forth.

2. The combination, with the cylindrical armature-core of a magneto or dynamo electric machine, of rows or series of steel pins or plugs driven into holes in the ends of the core and having their projecting ends covered or coated with an insulating material, and insulated conductors wound longitudinally upon the core and around the said pins or plugs, as set forth.

MORITZ A. MÜLLER.

Witnesses:
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