

(No Model.)

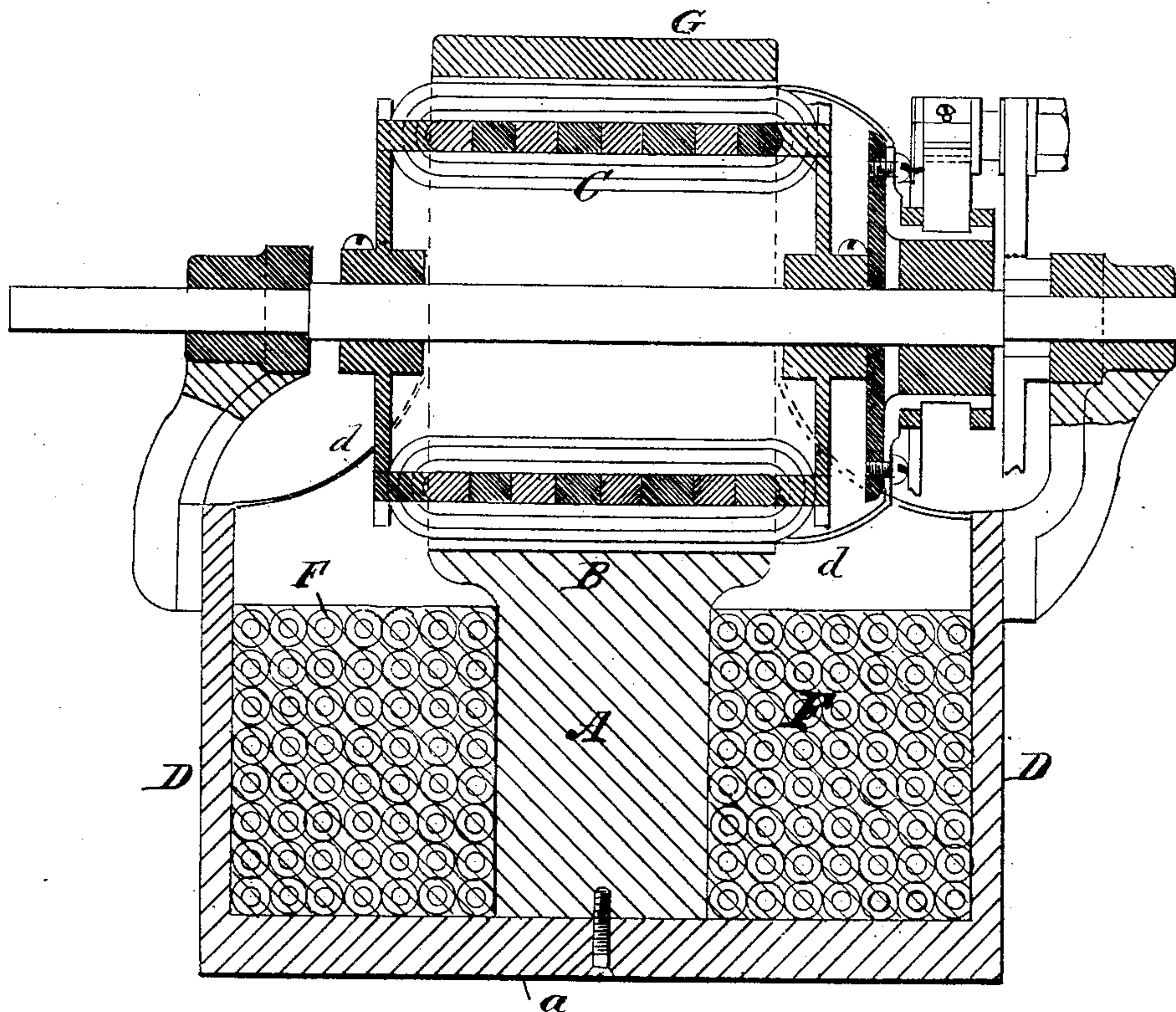
2 Sheets—Sheet 1.

J. J. & T. J. McTIGHE.
DYNAMO ELECTRIC MACHINE.

No. 270,325.

Patented Jan. 9, 1883.

Fig. 1.



Witnesses.
J. J. Patterson
Saml. Cunningham

Inventors.
James J. McTighe
Thomas J. McTighe
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Attorneys

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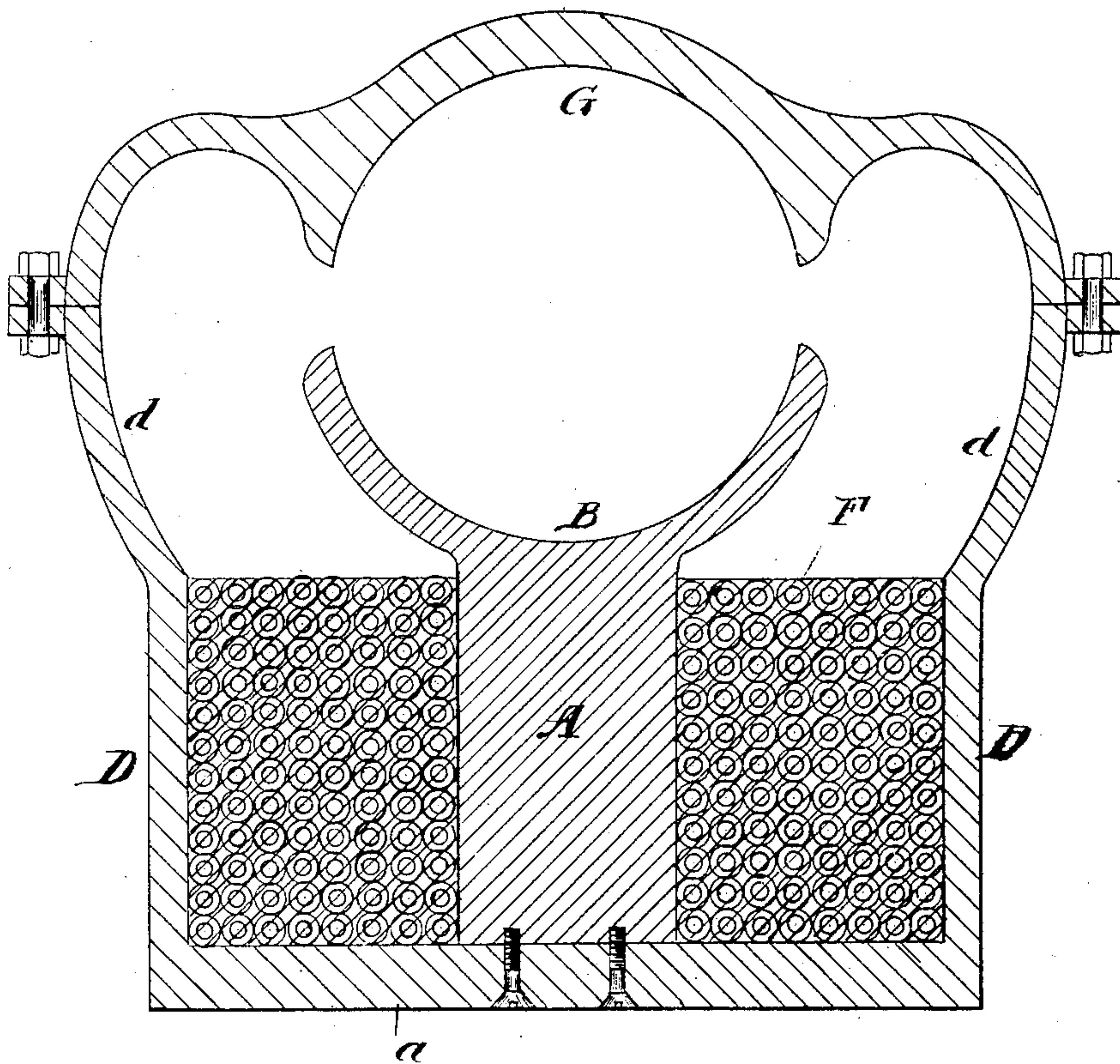
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Fig. 2.



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James J. McTighe
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UNITED STATES PATENT OFFICE.

JAMES J. MCTIGHE AND THOMAS J. MCTIGHE, OF PITTSBURG, PA.

DYNAMO-ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 270,325, dated January 9, 1883.

Application filed June 9, 1882. (No model.)

To all whom it may concern:

Be it known that we, JAMES J. MCTIGHE and THOMAS J. MCTIGHE, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Dynamo-Electric Machines; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to 5 which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a longitudinal vertical section of a machine embodying our improvements. Fig. 15 2 is a transverse vertical section of the field-magnet.

This invention relates to the construction of field-of-force magnets for dynamo-electric machines; and it consists in arranging the magnet 20 in the form of a tubular magnet in which one end of the core constitutes one pole, and the other pole is an extension of an iron tube surrounding the coil and magnetically joined to the other end of the core, substantially as 25 hereinafter described and claimed.

A is the core, having the curved pole-piece B to partially embrace the armature C. Core A is fitted and bolted to the bottom *a* of the cylinder D of iron. Before bolting these together the coil F is inserted, filling up the annular space between core A and its surrounding cylinder or extension D. Cylinder D is produced at opposite sides to form the cheeks 30 *d*, thus carrying the polarity which would exist at the bottom *a* upwardly in the cheeks *d*. To these is bolted the iron cap G, having

the curved polar face diametrically opposite the pole-piece B of core A, and between these the armature is located and revolves. The result is that the inductive influence of the current is utilized both inside the coil on the core A and outside on the cylinder D, and the magnetic field is concentrated powerfully between B and G, and external magnetism will not exist to any serious extent; and this effect is produced by a single energizing-coil, F, so that the total inductive effect of a given amount of wire can be concentrated in a small space and rendered available as active magnetism. 40 45 50

We claim as our invention—

1. In a dynamo-electric machine or electric motor, a single energizing-helix, in combination with a core of iron, one end of which terminates directly in a pole-piece and the other end of which is expanded in the form of a cylinder, returning outside the coil and terminating in a second pole-piece opposite the first, substantially as described, the field-of-force being thus located between said pole-pieces. 55 60

2. The combination of coil F, core A, having pole-piece B, bottom *a*, cylinder D, cheeks *d*, and pole-piece G, bolted thereto, substantially as described. 65

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

JAMES J. MCTIGHE.
THOMAS J. MCTIGHE.

Witnesses:

D. E. DAVIS,
T. J. PATTERSON.