

(No Model.)

2 Sheets—Sheet 1.

R. R. MOFFATT & S. CHICHESTER.

MAGNETO ELECTRIC MACHINE.

No. 245,308.

Patented Aug. 9, 1881.

Fig. 1.

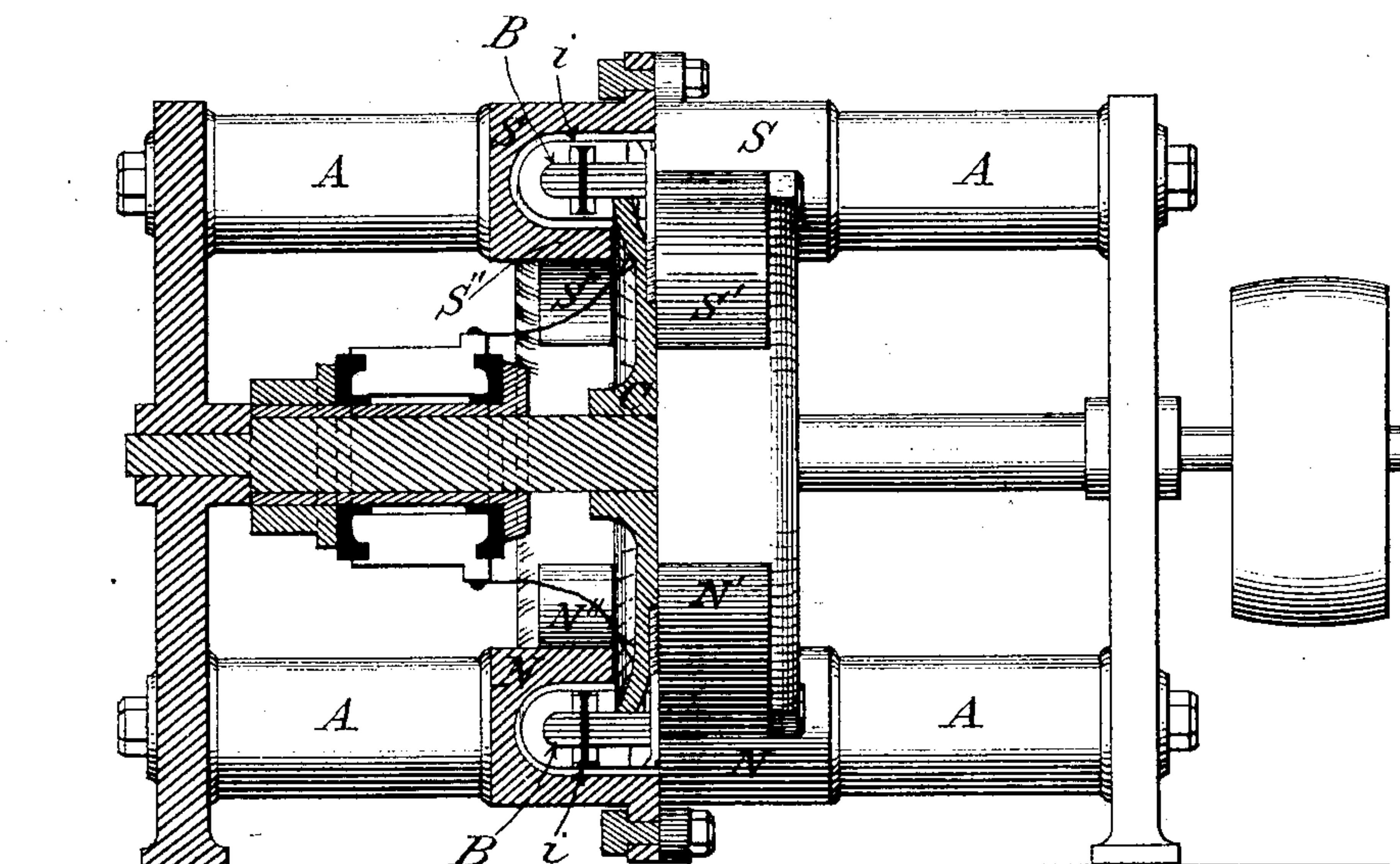
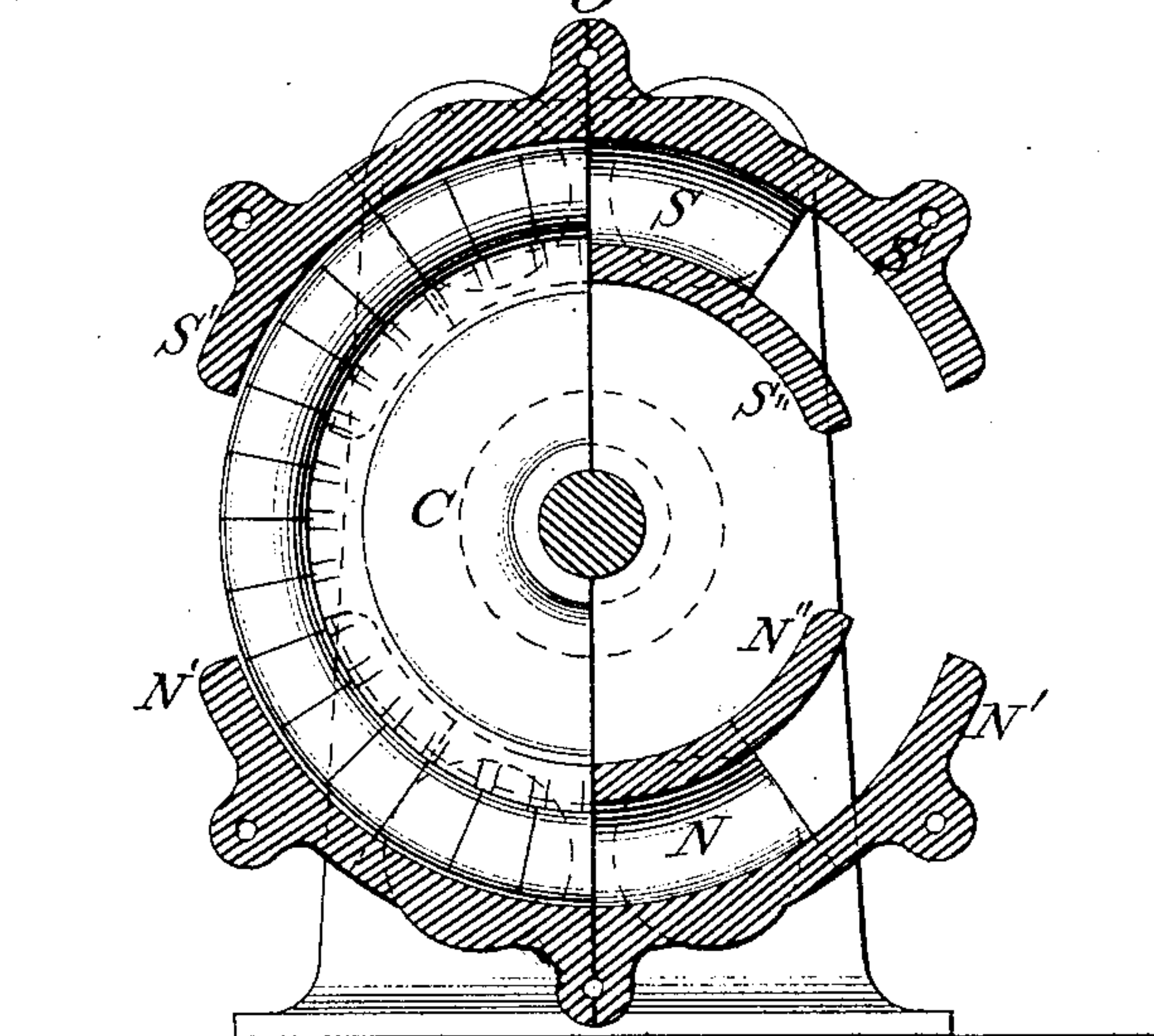


Fig. 2.



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Fig. 3.

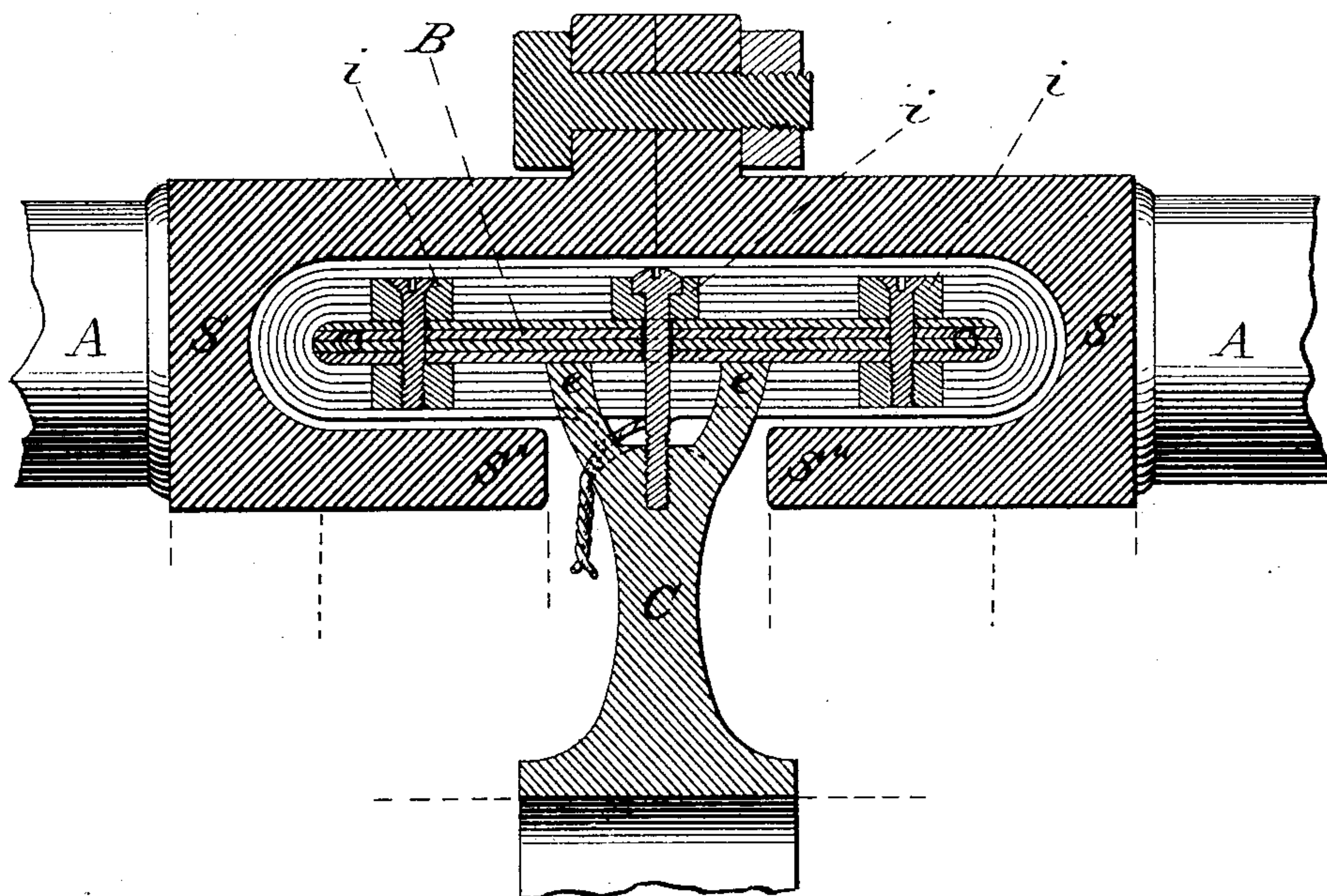
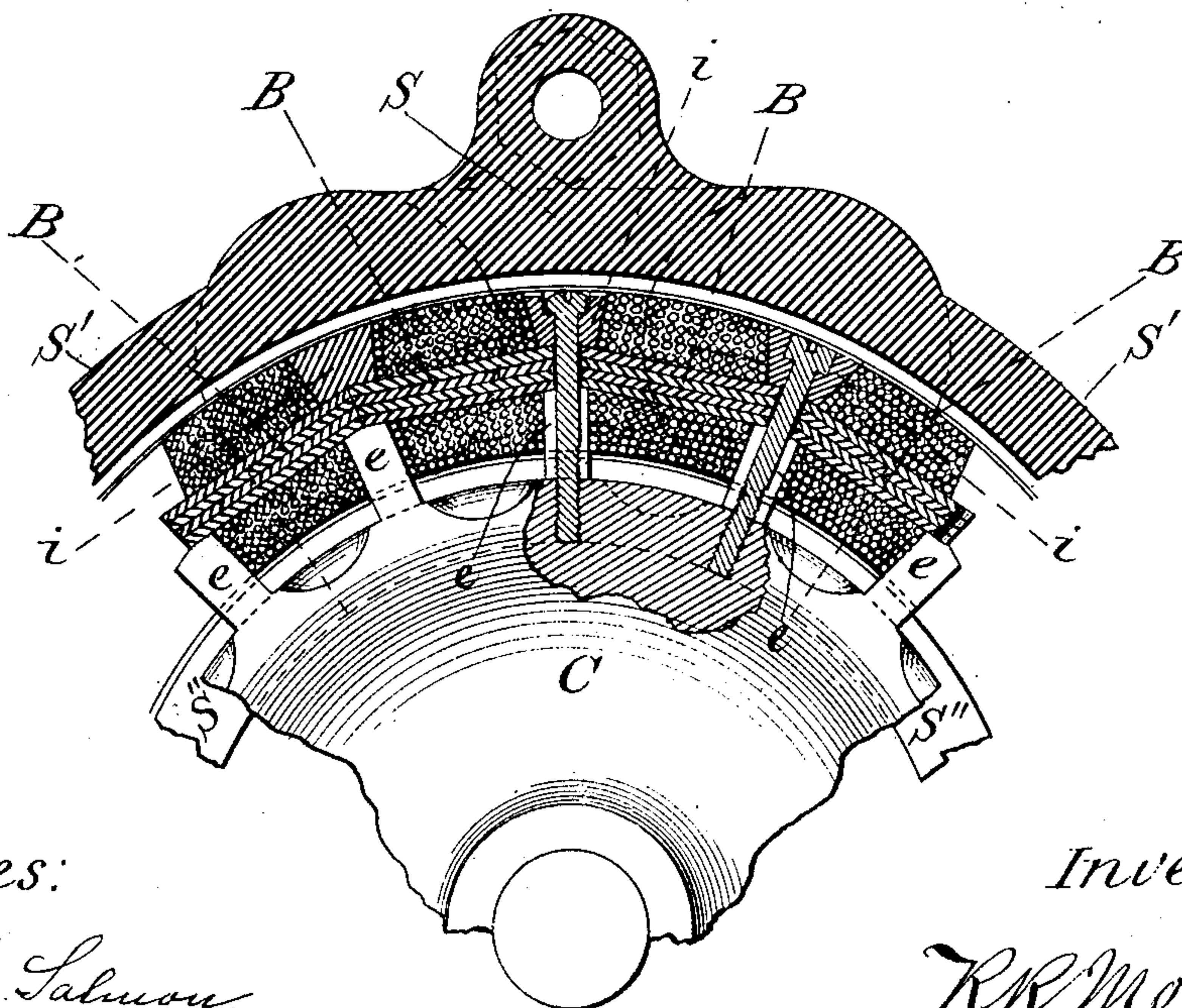


Fig. 4.



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UNITED STATES PATENT OFFICE.

RICHARD R. MOFFATT AND SYLVESTER CHICHESTER, OF BROOKLYN, N. Y.

MAGNETO-ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 245,308, dated August 9, 1881.

Application filed January 10, 1881. (No model.)

To all whom it may concern:

Be it known that we, RICHARD R. MOFFATT and SYLVESTER CHICHESTER, both of the city of Brooklyn, county of Kings, State of New York, have invented certain new and useful Improvements in Magneto-Electric Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being made to the accompanying drawings, which form part of this specification.

Our invention relates to magneto-electric machines or apparatus for the conversion of mechanical into electric energy; and it consists in improvements in the construction of the armature, also in the poles of the field-magnets.

In the annexed drawings, Figure 1 represents a side elevation of a machine or apparatus embodying our invention, one-half of which is shown in section. Fig. 2 represents a vertical section across its axis, in one-half of which the armature-cylinder is shown. Figs. 3 and 4 represent sectional views of the armature and poles, showing the manner of its construction and the means of securing it to the carrier-hub.

Similar letters of reference in the several figures indicate like parts.

In the drawings, A represents the field-magnets of the machine.

N and S are the poles of the magnets, which charge the armature in the operation of the machine.

The armature-core is formed of pieces B, which, when grouped together, form a ring or cylinder, as shown in Fig. 4. These core-pieces B are made of sheet-iron, each layer being insulated from the other on their wide surfaces, and all are held together by rivets. Near the ends are dowel-pins, which also tend to keep them in position.

C is a carrier-hub, made of a non-magnetic substance, provided with radial arms *e e*. These arms extend outward a sufficient distance to support the strips B. The latter are secured to the carrier-hub C by means of screws, as shown in the drawings.

i i are small lugs or fillets of iron, which are

secured in position between the bobbins, as shown. These lugs or fillets have metallic contact with the core-pieces B, and as their outward surface comes near to the poles it tends to increase the magnetic force or power of the core-pieces.

The carrier-hub C is centrally located within the armature-cylinder, and is made to occupy as little space as possible, with sufficient strength to firmly secure and hold the armature in its operation.

The wires in the armature-bobbins are wound around the core-pieces B, as shown, and ends of the wire extend through holes or grooves in the hub C to the commutator-connection.

The poles of the field-magnet are so made that they extend entirely across the outer surface (the ends) and also a large part of the inner surface of the armature-cylinder, as shown in Fig. 3, thus almost inclosing the latter in a powerful magnetic field. The poles are provided with circular arms or prolongations N' S' and N'' S'', so arranged that they will extend both outside and inside of the armature-cylinder, as shown in Figs. 2 and 4. By this arrangement a very large proportion of the entire surface of the armature is constantly presented to the magnet poles.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a magneto-electric machine, an armature of iron in the form of a ring or endless band having its greatest length of cross-section parallel with its axis, said armature built of sectional pieces B, secured together, and held to the central hub, C, and provided with lugs or fillets *i*, substantially as described.

2. A magneto-electric machine having an armature in the form of a ring or endless band, with its greatest length of cross-section parallel with its axis, and the magnet poles inclosing the armature externally, and having branches extending within at both ends, substantially as herein shown and described.

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Witnesses:

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